

# Chilton's MOTOR AGE

SEPTEMBER 1952



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DETROIT

In This Issue:

## Tips on Timing Valves

**Tough but oh so**

# GENTLE

**TOUGH ON OIL-PUMPING**

**GENTLE ON CYLINDER WALLS**



*Gentle because* Steel-Vent's two wall-contacting steel sections have rounded edges which provide hairline contact and reduce drag to a minimum.

*Gentle because* the Steel-Vent spacer has extra wide vents that let oil flow through freely for extra cylinder wall lubrication.

*Gentle because* Steel-Vent's flexible, low-tension inner spring works only against the steel sections—holds them on the cylinder wall with soft pressure.

*Result: maximum life, minimum wear.*



See the September 20 issue of *The Saturday Evening Post*—and see one of the most powerful advertisements ever run for piston rings! Here's two pages, two-color evidence that Hastings sets the pace in advertising and merchandising support. Here's a new highlight in a consistent campaign to help you sell Hastings Piston Rings.

**HASTINGS MANUFACTURING CO., HASTINGS, MICH., HASTINGS LTD. TORONTO**

Piston Rings • Spark Plugs • Oil Filters • Casite • Drout

# HASTINGS

**STEEL-VENT PISTON RINGS**

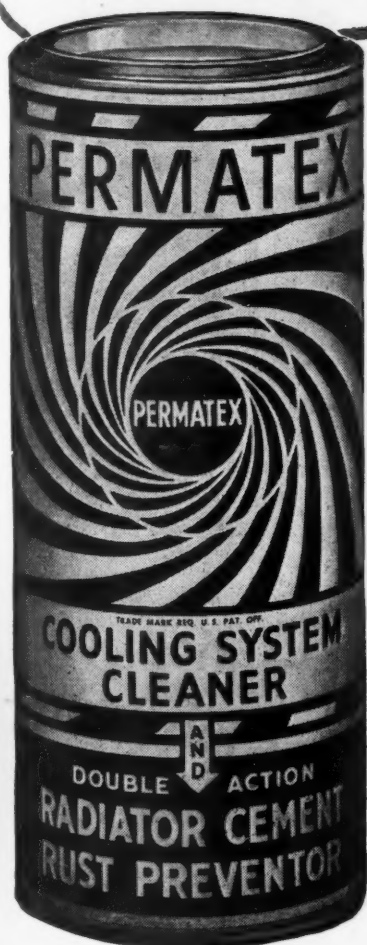
*Chrome Faced*

**FOR HEAVY-DUTY SERVICE**

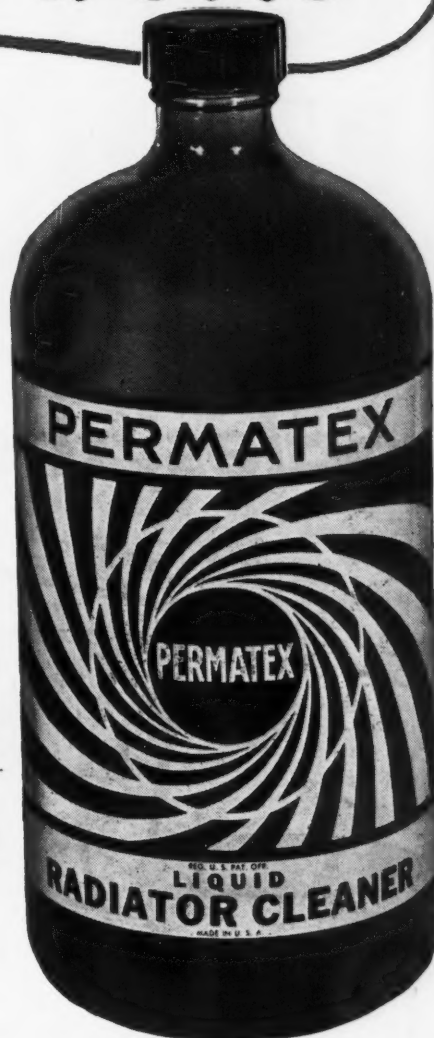




# CLEAN RADIATORS



**FASTER**  
**EASIER**  
**BETTER**



## NON-ACID...POWDER TYPE

This Permatex Cooling System Cleaner package gives you all the chemicals you need to do a thorough job. It contains two separate products:

1. A non-acid powder cleaner that quickly removes rust, scale, grease and slime in one quick operation.
2. Double-Action Radiator Cement that will seal up any radiator leaks and prevent rust from forming on the cleaned metal surfaces.

These two Permatex Cleaners enable you to clean any cooling system that comes along... the non-acid for the usual jobs; the acid for the tough babies.

PERMATEX COMPANY, INC., Brooklyn 35, N. Y.

Over 50 Chemical Products For Better Automotive Maintenance

## ACID...LIQUID TYPE

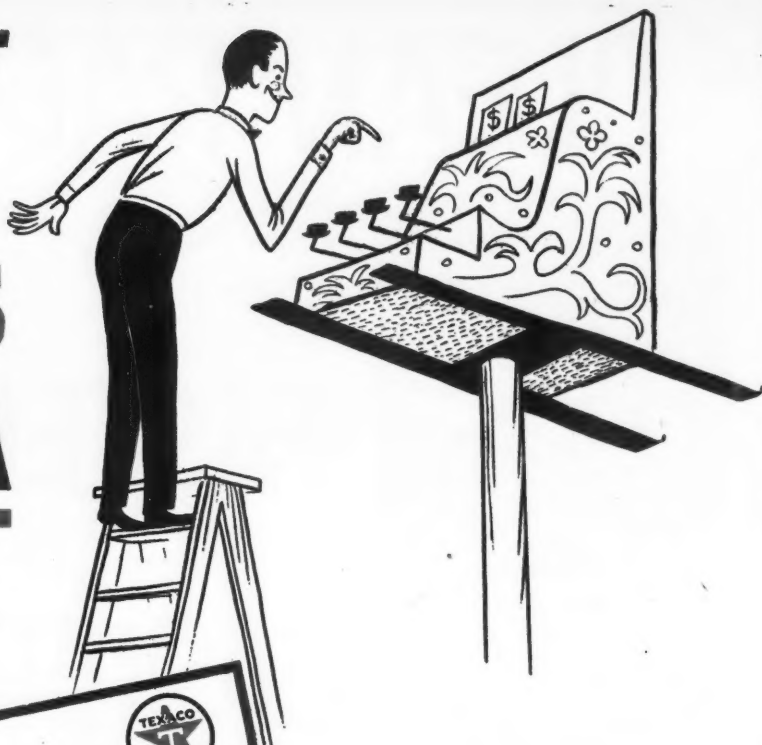
Use Permatex Liquid Radiator Cleaner for the stubborn job where rust and scale are thick. It is a fast-acting acid that completely dissolves rust and scale from radiators, cylinder heads and blocks. So effective that reverse flushing is rarely necessary, yet no inhibitor is required. Works where other cleaners fail.

Ask your  
Jobber/Salesman  
about the  
**SPECIAL  
OFFER**  
on these  
products

## PERMATEX COOLING SYSTEM CLEANERS

ACID AND NON-ACID TYPES

# Boost your LUBE PROFITS —and TBA Sales, too!



with

**MARFAK**  
*Lubrication*

the superior  
chassis lubricant



## Everytime you get a car on the lift...

(1) you have an opportunity to see what it needs... (2) you have an opportunity to sell TBA items.

There's nothing like *Marfak* for bringing in lubrication customers. It's a top-satisfaction builder. It's easy to demonstrate its superior qualities. And once car owners have had *Marfak* jobs... they want repeats. They feel the difference — quieter, smoother riding, easier handling, greater protection. *Marfak* is tough — specially made to resist jar-out, squeeze-out and wash-out. It clings to vital chassis points. That "cushiony" feeling lasts longer.

MILLIONS of car owners know *Marfak*. Continuous national advertising keeps telling them and selling them. Talk to a Texaco representative. See how the *Marfak* sign can mean more business for you.

**MILLIONS know  
MARFAK...**

More than  
400-million  
pounds of  
MARFAK have  
been sold!

*MARFAK offers you a ready-made market!*

*The Texas Company*



# Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

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For THE AUTOMOTIVE SERVICE INDUSTRY

LXXI, No. 10

September, 1952

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Los Angeles 5, Cal.—3156 Wilshire Blvd., Phone DUNKirk 7-2119. Member  
of Audit Bureau of Circulation.

MOTOR AGE, Vol. LXXI, No. 10. Published monthly by Chilton Co., Chestnut & 56th Sts., Phila. 39, Pa. Entered as Second Class Matter December 27, 1935,  
at the Post Office at Philadelphia, Pa.; Under the Act of Congress of March 3, 1879. In case of Non-Delivery Return Postage Guaranteed. Subscription price:  
United States, Mexico, United States Possessions and all Latin-American countries \$3.00 per year. Canadian \$5.00; foreign \$7.00 per year; single copies, 40 cents.

One of the Publications Owned by  
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**Record-Breaking Crowd Applauds**

# 15<sup>th</sup> All-American Soap Box Derby

**Chevrolet Dealers and Co-Sponsors  
Celebrate 15 Years of Constructive Activity  
for American Boys**

The greatest Soap Box Derby of them all is over! But the cheers of the crowd . . . the thrills . . . the excitement . . . the display of sportsmanship at its very best . . . will linger long in the hearts of those who saw and participated in the 154 home-town events and the spectacular All-American Soap Box Derby, Derby Downs, Akron, Ohio, August 10, 1952.

This was the largest Soap Box Derby in history . . . planned that way in every detail! Chevrolet dealers, co-sponsoring newspapers, civic groups and clubs have developed this great community project into a national institution, which has just celebrated 15 years of constructive activity for American boys. Chevrolet Division of General Motors, Detroit 2, Michigan.



T. H. Keating, General Manager of the Chevrolet Motor Division, congratulates All-American champion Joe Lunn of Thomasville, Georgia, representing Columbus, Georgia, after presenting trophy, as the champion's mother looks on.

The 15th All-American Soap Box Derby Championship Trophy.



THOUSANDS OF SPECTATORS LINE TRACK AT DERBY DOWNS IN RECORD ATTENDANCE AT 15TH SOAP BOX DERBY, AKRON, OHIO

**The MOOG PISTON RING  
SET-UP is ideal  
for that . . .**



**BLUE PLATE  
SPECIAL!**

**NEW PISTONS  
for OLD!**



In co-operation with the Automotive Engine Rebuilders Association, Moog endorses the Blue Plate Special, and through their jobbers offers you Piston Reconditioning by Production Line Methods.

Pistons are like new—clean and bright, and each one individually protected by a paper bag.

Grooves are clean and straight, pistons resized, stresses in metal relieved, rods are aligned; pins fitted and completely reconditioned for more thousands of miles of efficient service. Moog Piston Rings installed on Dynamized Pistons for a complete Full Power job!



© 1922 M. I. I.

**MOOG INDUSTRIES, INC.**  
6650 Easton Ave., St. Louis 14, Mo.

Sweet Music!

Keep

'em

Singing

**...with FEDERAL-MOGUL  
the COMPLETE engine  
bearing service!**

Engine Bearings  
(Main, Connecting  
Rod and Camshaft)  
Bushings • Connect-  
ing Rod Service—  
Exchange Insert  
Rods, Rebabbitted  
Rods • Connecting  
Rod Bolts and  
Nuts • V-Seam  
Piston Pin  
Bushings • Shims  
and Shim Stock

When you recondition the engine, you strike the right note—every time—with Federal-Mogul's complete engine bearing service!

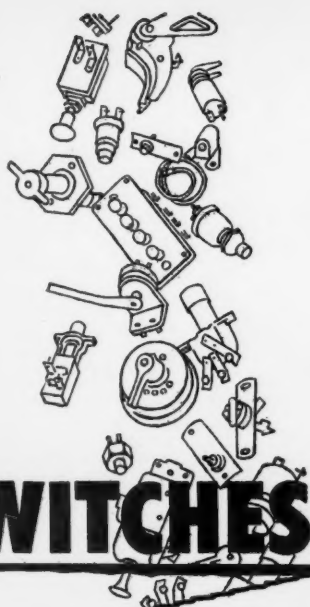
Federal-Mogul has *more* bearing part numbers than any other line... the *only* complete connecting rod service... *all* the bushings, shims, bolts and nuts you need to make the engine hum a happy tune! Ask your Federal-Mogul jobber!



**FEDERAL-MOGUL SERVICE**

(Division of Federal-Mogul Corporation) DETROIT 13, MICHIGAN





Make more sales by having *on hand* the *right* Delco-Remy switches for a wider variety of automotive applications.

Delco-Remy makes millions of switches for original equipment (ignition, lighting, accessory, glove compartment and dimmer switches, to mention only a few varieties). Millions more—equal in every respect to those made for original equipment—are made for the replacement market.

You'll make more friends . . . sell in greater volume . . . when you stock a wider variety of Delco-Remy switches.

# SWITCHES UNLIMITED!

**STOCK MORE**  
and you'll make  
**MORE SALES!**



**DELCO-REMY**

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

## Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION  
ANDERSON, INDIANA

PIONEER MANUFACTURERS OF AUTOMOTIVE ELECTRICAL EQUIPMENT



*Walter I. Mills*

PRESIDENT

AUTO PARTS COMPANY  
ST. LOUIS 3, MISSOURI

"THAT 'Sta-ful' Battery practically sells itself, many of our salesmen report," says Walter T. Mills.

"But the truth is, of course, that Auto-Lite Battery planned it that way. Look at the big original equipment replacement market, the Auto-Lite national radio and television shows, the strong

national magazine and farm magazine advertising campaigns, and now — 'Operator 25' Service. Those are all salesmen working for us without charge.

"Our dealers like the Auto-Lite Battery line, we like it, our salesmen like it, and the general public loves it."



# AUTO-LITE BATTERIES





# You risk losing customers when you use inferior brake lining...

One sure way to build steady patronage is to use Raybestos PG Proving Ground Tested Sets. They have the quality needed on America's highways today. They last longer, make safer, surer stops. Raybestos Brake Linings complement your good mechanical work . . . mark your shop as a reliable place to go for service.



**INSIST ON THE RAYBESTOS BRAND ON EVERY PIECE OF BRAKE LINING. IT'S THERE FOR YOUR PROTECTION.**

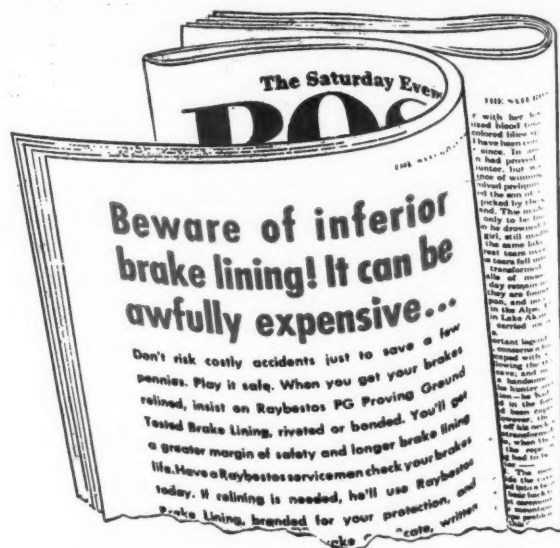
PG for riveting

Ray-BOND for bonding



## PULL WHEELS AND USE THE RAYBESTOS BRAKE CERTIFICATE

These two things, plus the quality of Raybestos Brake Lining, will give you the keys to brake service volume. And month after month, powerful pre-selling Raybestos ads like the one below will support you by urging city and rural car owners to have their brakes certified safe.



## YOUR CUSTOMERS AND PROSPECTS WILL READ THIS RAYBESTOS AD

Hard-hitting advertisements like this are appearing regularly in **The Saturday Evening POST** and in **Farm Journal**. Thousands of car owners right in your own neighborhood will become brake lining conscious . . . will want to buy Raybestos.

50 YEARS OF SERVICE . . . 50 YEARS OF PROGRESS . . . 1902-1952



# Raybestos

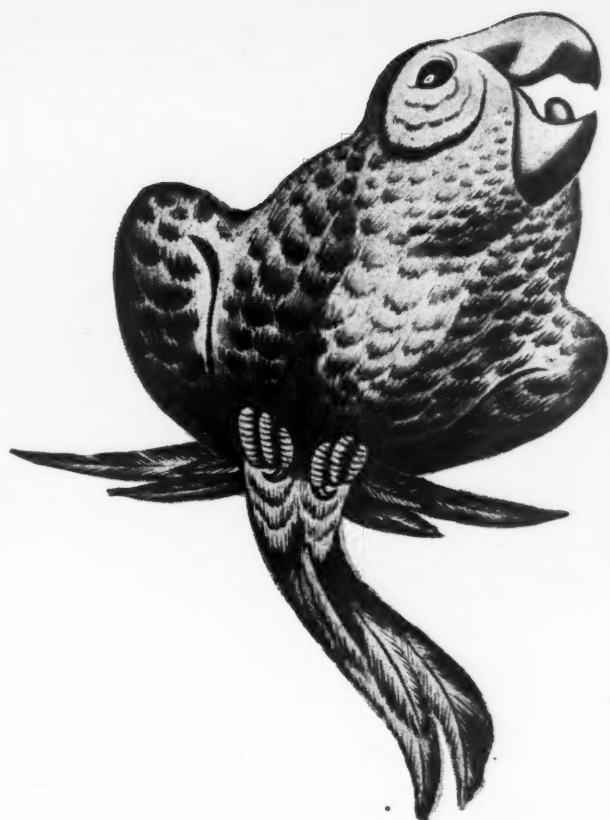
## PG SETS

AMERICA'S BIGGEST SELLING BRAKE LINING



**RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., Bridgeport, Conn.**

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hose • Fan Belts • Mechanical Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

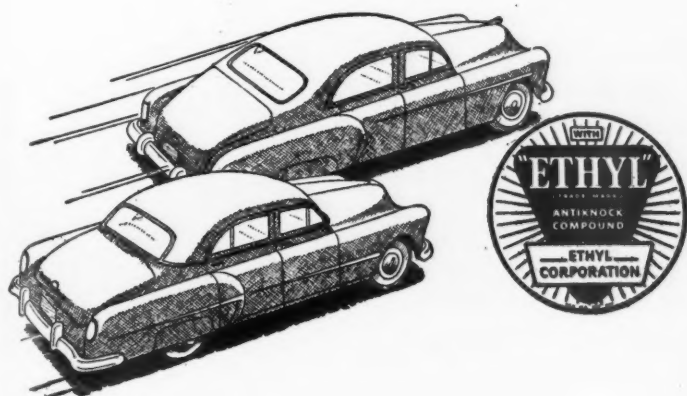


There's a big difference between a

# polly and a pollywog

—and there is a powerful difference, too,  
between performance and “ETHYL” performance!

TRADE-MARK



Yes, there's a powerful difference between the performance of an engine using just gasoline and one using “Ethyl” gasoline. When you set the timing to take full advantage of “Ethyl” gasoline's higher antiknock quality, your customer gets “Ethyl” performance—more power, quicker starting, more mileage. And you get happier, more satisfied customers.

ETHYL CORPORATION, New York 17, New York

Other products sold under the “Ethyl” trade-mark: salt cake...ethylene dichloride...sodium (metallic)...chlorine (liquid)...oil soluble dye...benzene hexachloride (technical)

# PARTS TIRES HARROWS REPAIRING

OPERATING WITH  
Farm Journal's

"KEEP 'EM  
ROLLING"

PROG





## "Sure—I know all about 'Keep 'Em Rolling'!"

*"Just look at my shop window. I've been taking advantage of this promotion for almost two years now. It's helped my business generally besides making off-seasons as profitable as my peak seasons."*

There are a number of reasons why Farm Journal's "Keep 'Em Rolling" program works so well. First, the majority of America's dealers depend on rural people for a good half of their business. Second, Farm Journal is both the largest and the most influential magazine in Rural America. Third, when Farm Journal urges better maintenance, it talks directly to your best customers, the owners of over 6,000,000 motor vehicles.

Farm Journal inaugurated "Keep 'Em Rolling" two years ago as a service to more than 2,850,000 subscriber families who depend on a tremendous fleet of go-power for their livelihood. It has appeared at seasonal intervals ever since. Each feature has meant much to Farm Journal readers because of the valuable and timely maintenance suggestions it con-

tains. Each feature has also been seized upon by hundreds of jobbers and dealers. They welcome the opportunity it gives them to do a better selling job among their prosperous rural and out-of-town customers.

Any time's a good time to feature the products and services advertised in Farm Journal, but you will get a bonus in sales when you tie in with the "Keep 'Em Rolling" issues. It's easy to use the programs your suppliers make available. Or, if you prefer, you can tie in through your own advertising. Classified ads, for instance, identifying your shop with "Keep 'Em Rolling" and Farm Journal-advertised products will do the trick.

If you would like tie-in banners such as this dealer displays, we have a quantity available. Write on your business letterhead.

*The current "Keep 'Em Rolling" feature appears in the October issue of Farm Journal, out September 15. Plan now to take advantage of it, and write for lists of the products advertised in this issue.*



YOU GET WHAT YOU WANT FROM ADVERTISING IN FARM JOURNAL—the impact of one of America's biggest national magazines, plus coverage like a local newspaper in the better farming areas. If you've ever seen Farm Journal's County Analysis Folder for your territory, you'll know why. It tells you the number of farm families in your territory, how many subscribe to Farm Journal, the number of cars, trucks and tractors they own, how much money they spend. For your free copy, write Dealer Service Department, Farm Journal, Philadelphia 5, Pa.

## Farm Journal

WASHINGTON SQUARE, PHILA. 5, PA.

GRAHAM PATTERSON, PUBLISHER

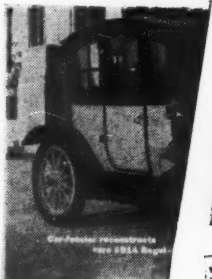


# Auto-Lite assures fast selling action

This colorful full page advertisement in **MECHANIX ILLUSTRATED** ...plus ads in other top national magazines, is part of a major advertising program that is helping to maintain Electric Auto-Lite's high position in the spark plug field.



HOW TO GET RICH PRO  
BUILD MI'S VACATIO



**EXPERTS HAVE PROVED**  
**Auto-Lite RESISTOR Spark Plugs**  
**GIVE DOUBLE LIFE\***

*...smoother performance... quiet starts... greater gas savings*

**POLICE DEPARTMENTS**...  
**FIRE DEPARTMENTS**...  
**CAR COMPANIES**...  
**CAR ENGINEERS**...  
**CAR OWNERS**...

**THE ELECTRIC AUTO-LITE CO.**  
Yonkers 1, Ohio

**Ignition Engineered!**  
**AUTO-LITE**  
**Resistor SPARK PLUGS**

\*Double life under equal service conditions as compared to standard spark plugs. Based on 100,000 miles of testing.

## You'll find Auto-Lite advertised in Mechanix Illustrated

... because The Electric Auto-Lite Company knows that in MI it is reaching an audience of over one-million male readers who are constantly on the lookout for the newest and best products for their automobiles. Regular monthly MI features like Tom McCahill's "New Car Test Reports" and Fred Russell's "Car Care"—plus many other automotive editorial pages—have instilled in these men a knowledge of and demand for top-quality brand name products.

Electric Auto-Lite products are naturals for the selective **MECHANIX ILLUSTRATED** reader market. For many years the name "Auto-Lite" has stood for top quality spark plugs, as well as other automotive parts. By letting MI readers in your area know that you carry "Ignition Engineered" Auto-Lite Resistor Spark Plugs, you can be sure of seeing your sales picture show new action.

# MECHANIX ILLUSTRATED

A FAWCETT PUBLICATION

67 West 44th Street, New York 36, N. Y.



# Keep brake service customers satisfied! Use Grey-Rock Balanced Braksets

ASK YOUR JOBBER  
ABOUT  
GREY-ROCK  
FACTORY BONDED  
SHOE EXCHANGE



Every segment factory-  
bonded for your cus-  
tomer's protection. For  
riveting or for bonding.

*Only* **Grey-Rock** *makes*  
**BALANCED BRAKSET LININGS**

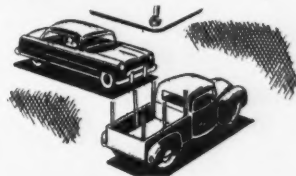


**GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.**

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Packings • Mechanical Rubber Products • Rubber Covered Equipment • Asbestos Textiles • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

## Grey-Rock advantages

**Faster Stops,  
Longer Wear**



Grey-Rock Balanced Braksets, made of special combinations of friction materials for each make and model of car, assure faster, smoother, safer stops and longer lining life . . . with fewer adjustments. This is the famous *balance* principle pioneered by Grey-Rock over 20 years ago. It reduces comebacks and helps you make a better profit on every brake job. When you accept unbranded lining, you never know what you're getting . . . but when you install branded Grey-Rock Balanced Braksets, you're sure of a job that will win your customers' confidence.

## Proof of a Better Brake Job



This tag is packed in every Grey-Rock set, ready for you to snap on a dash button of your customer's car. It tells how your workmanship joins with Grey-Rock Balanced Braksets to deliver a better brake job. It's good advertising for *your* shop!

## Solid Reputation



Grey-Rock Balanced Braksets have been nationally advertised for years. Car owners know the Grey-Rock name, and have confidence in shops that use Grey-Rock. Every time you install a Grey-Rock Balanced Brakset you build your reputation for good brake work. You can make every job a profitable reputation-building job.

Consistently advertised in

**POST** and *Country Gentleman*



# Here are **5** reasons why

**1**

## SENSATIONAL NEW KIND OF ADVERTISING WILL BRING CUSTOMERS DIRECTLY TO YOUR DOOR!

**Get Extra Sales and Profits from  
Western Union Operator 25 . . . It's easy!**

Today, more than ever before, car owners need and want an accurate battery charge and condition test. AAA reports more than 10 million car breakdowns in 1951 were caused by battery failure. And now Willard Dealers can provide a quick, accurate test that car owners can understand. Over 73 million sales messages in Willard national advertising will feature this battery charge and condition test in a big way. And every single message will urge car owners to locate their Willard Dealer by Calling Western Union and asking for Operator 25.

**PUT WESTERN UNION OPERATOR 25 TO WORK FOR YOU!**

**Willard Foots the Bill . . . Costs You Nothing**

• Use this great new Willard service to help you sell more batteries and other under-the-hood products and services. Contact your Willard Distributor right now . . . delay can cost you extra profits. If you don't know your Willard Distributor, fill out coupon on right-hand page and mail it *today*.



# Willard

WILLARD STORAGE BATTERY COMPANY

FACTORIES IN: CLEVELAND • LOS ANGELES • DALLAS • MEMPHIS • PORTLAND • ALBANY • TORONTO



# you can make more money selling **Willard!**

**2**

**It's easier to sell Willard because more car owners prefer Willard than any other battery!**

**3**

**Year after year, Willard has supplied batteries to more manufacturers for original equipment than any other battery maker...and will again in 1952!**

**4**

**In the complete Willard line you have a battery for everyone — retail prices start at \$16.65.**

**5**

**50 years and 100 million batteries have proved Willard the world's most dependable battery.**

*Mail Coupon Below*

for more facts on these and other  
big reasons why you can make more  
money selling Willard.

*Send me*

**FACTS FOR WHOLESALERS**

Willard Storage Battery Co., Dept. B-9  
1220 Huron Road, Cleveland 15, Ohio

Yes, I would like all of the reasons why I can make more money as a wholesaler for Willard Batteries, including profit opportunity figures specifically covering my own particular territory.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

*Send me*

**FACTS FOR DEALERS**

Willard Storage Battery Co., Dept. B-9  
1220 Huron Road, Cleveland 15, Ohio

Yes, I would like all of the reasons why I can make more money selling Willard Batteries.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

# TO THE TOP

R. A. STRANAHAN President  
F. D. STRANAHAN Treasurer

Cable Address  
"CHAMPION"

## CHAMPION SPARK PLUG COMPANY

FELTHAM ENGLAND PARIS FRANCE WINDSOR CANADA

TOLEDO 1, OHIO, U.S.A.

August 1, 1952

Dear Champion Dealers:

For years we've been using these pages to point out the many reasons why Champion is the outstanding leader in the spark plug field. We feel that you fellows in the automotive business know all these facts even better than the car, fleet, tractor, bus, aircraft, boat, etc., owners who for the past 30 years have bought more Champions by far than any other make of spark plug. So, assuming that you are well aware of Champion's better quality, better performance, greater sales, largest advertising support, etc., we propose in the future to use the left hand page of this double spread to tell about the latest developments in all phases of our business so that you'll know in advance what product, merchandising and advertising plans are on the fire. We'll use the right hand page to illustrate these changes and to show new products such as the very efficient gap tool we've just put on the market. Also, we'll pass along news of Champion's accomplishments throughout the world that we think will be of interest to you and your customers. For instance - so far this year the Italian Ferrari



# DEALERS *IN THE NATION*

cars equipped with Champions made in the good old U.S.A. have copped about every Grand Prix in Europe. Here they are — Paris, Marseilles, Turin, Siracusa, Switzerland, Naples, Belgium, Monaco, Pau and Portugal. In addition, Champion-equipped cars won the Grand Prix of France and Rheims. This is only the beginning, as most of the Grand Prix races are later in the season.

Incidentally, Briggs Cunningham took three of his Florida built Cunningham sports cars to France this summer to race against the Ferraris and other European cars. The Chrysler engines in the Cunningham cars are run exclusively on Champions. Enough said.

See you in September.

Cordially,

*Jim L*

P.S.: We were surprised at a certain spark plug company's latest ads which claim to have pioneered the resistor plug in 1943. Champion has manufactured internal resistor plugs since 1931, but we only recommend them for use in aircraft, military vehicles and other special jobs where radio interference suppression is of major importance.

AMERICA'S FAVORITE  
**CHAMPION**  
SPARK PLUGS

Again  
**METCOLD**



**TOPS THE  
FIELD!**

Now! **YOU CAN SELL**

*finest professional quality*

**TOOL KITS**

*at competitive prices!*

**EACH KIT A  
DISPLAY IN ITSELF!**

- Handy, Durable Metal Edge Boxes
- No Duplication of Sizes
- Priced for Fast Volume Sales
- Excellent Profits
- Fully Guaranteed



BOX END  
WRENCHES



**AMAZINGLY SMALL INVESTMENT  
BRINGS YOU THIS COMPLETE  
ASSORTMENT FOR IMMEDIATE RESALE!**

These popular tools sell on sight to motorists, farmers, shops and homes. Display 'em and you'll sell 'em. Start now and get your share of this fast-moving, profitable business.

**Guaranteed Hot-Forged**

• **SOCKET KITS**

*Rugged, Handy, Compact*

• **WRENCH KITS**

*Popular, Fast-Selling*

• **UTILITY KIT**

**SOLD ONLY THROUGH AUTHORIZED JOBBERS  
INVESTIGATE TODAY—CONTACT YOUR JOBBER  
NOW! OR WRITE DIRECT.**

COMBINATION  
WRENCHES



1/4-INCH SQUARE  
DRIVE SOCKETS



OPEN END  
WRENCHES



3/8-INCH SQUARE  
DRIVE SOCKETS



1/2-INCH SQUARE  
DRIVE SOCKETS



UTILITY  
TOOLS

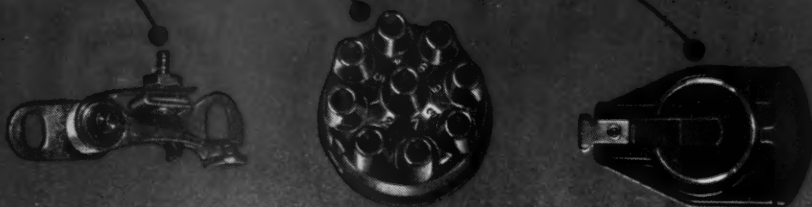
**METAL ENGINEERING COMPANY • 134 NORTH LA SALLE STREET • CHICAGO 2, ILL.**







Stock These New, Fast-Moving  
Holley Carburetor Company  
**Distributors**  
Complete Units—Component Parts



The Holley original equipment ignition line includes distributors, contact points, distributor caps, and rotors for Ford 6 and 8 cylinder vehicles as far back as 1934; Mercury's to 1939; and Lincoln's from 1937. Original equipment condensers and coils for the same applications are also available.

For customer satisfaction—for rapid turnover—for good profit—stock and sell new original equipment Holley ignition parts. All have been selected by leading car and truck manufacturers as original equipment.

Holley has long been a leader in the design and manufacture of ignition equipment. Their record of firsts include such important recent developments as the pressure distributor and the heavy duty point with ventilated contact.

Make sure your inventory includes the complete line of these Holley products. Get the customer satisfaction and the profit that comes when you sell Holley original equipment, fuel, and ignition parts.

FOR MORE THAN HALF A CENTURY—  
ORIGINAL EQUIPMENT MANUFACTURERS  
FOR THE AUTOMOTIVE INDUSTRY



5930 VANCOUVER AVE. • DETROIT 4, MICH.

Export Representatives for the  
Holley Carburetor Co.

**GEON INTERNATIONAL CORP.**

67 BROAD STREET • NEW YORK 4, N. Y.

WT-14

# Here's help for

**WAGNER ADS in  
POST and COLLIER'S**  
urge car owners to have brake system  
checked regularly by a competent service man



*The 3R's for better brakes...*

**REFILL** with Wagner Lockheed Brake Fluid

**REPLACE** with Wagner Lockheed Brake Parts

**RELINE** with Wagner CoMaX Lining



You can depend on **WAGNER QUALITY** because Wagner products are used  
as original equipment by automobile, truck and trailer manufacturers.

H52-14



# Wagner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NOBEL • CoMaX BRAKE LINING • AIR BRAKES  
TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES

# YOU

This one-half page advertisement (reproduced in miniature) will appear in the October 4th issue of Saturday Evening Post and the October 25th issue of Collier's.

Again in 1952, as in all other years, Wagner leads all others in the brake service products field by running the biggest, most helpful advertising program. Business is being created for YOU.

Colorful half-page Wagner ads (like the one reproduced in miniature at the right) appear regularly in the POST and in COLLIER'S.

You have everything to gain. This great promotional campaign costs you nothing—So plan to tie in with it now—Stock and feature Wagner products—Wagner Lockheed Hydraulic Brake Parts and Fluid, and Wagner CoMaX Brake Lining. You can get them all from one source—your Wagner jobber.

The Wagner line is a great line. Learn more about it by writing us for a FREE copy of Catalog AU-500.

## Wagner Electric Corporation

6498 Plymouth Ave., St. Louis 14, Mo.  
(Branches in principal cities in U. S. and in Canada)



## INSUFFICIENT BRAKE FLUID— *a dangerous condition you don't see*



It is important to your safety that the brake fluid in the master cylinder of your car be maintained at "full level." If the fluid gets too low—serious trouble can develop. Since the master cylinder is located under the hood or floor—fluid falling below the proper level is a *danger signal you can't see* while seated in your car. As a safety precaution—at least twice a year, have your automotive serviceman check the hydraulic brake fluid, and all other parts of the brake system. Don't wait until you have to "pump" or push the brake pedal to the floorboard to get braking action. If you do—you're headed for trouble.

All your car may need now is the addition of a few ounces of brake fluid to restore the proper level of fluid in the master cylinder. For safety's sake—specify genuine WAGNER LOCKHEED BRAKE FLUID. It is perfectly balanced for maximum efficiency—in all seasons of the year.

Should inspection disclose parts of the brake system are worn—have them replaced with genuine WAGNER LOCKHEED HYDRAULIC BRAKE PARTS... And if new lining is required—have the brakes relined with WAGNER CoMaX BRAKE LINING... You can depend upon Wagner Quality because Wagner products are used as original equipment by automobile, truck and trailer manufacturers. You can get brake service—where Wagner products are used—in your neighborhood. If you don't know where—write us. Wagner Electric Corporation, 6400 Plymouth Avenue, St. Louis 14, Mo. (In Canada, Wagner Brake Company Ltd., Toronto.)



WAGNER PRODUCTS—LOCKHEED HYDRAULIC BRAKE PARTS and FLUID... NoRel... CoMaX BRAKE LINING... AIR BRAKES... TACHOGRAPHS... ELECTRIC MOTORS... TRANSFORMERS... INDUSTRIAL BRAKES

class, except Barbara. Poor she has to go to it."

The chair rocked down before bara slammed down before table, holding her hands cheeks and staring straight don't have to go and I us in the mirror said—Hold do have to go and you will.

At two o'clock, Bar suggested, "Wear your dear. You look so young.

At two-thirty Rande turned yet with the f she was depending or glitter to inflate her e

Mrs. Hildale sigh sigh bent toward her dear. He's so unreli now it's the Clifford

A girl living ho Barbara meditated Randolph—a girl u ried, jolious at her r had absolutely no fr

might as well be th on the dark hall w

Having given up stood at the phone Hildale—six twel away, please."

A know the Hildab Barbara Hildale of a broken he

mother or no j out and get a jo

Doing what? run over her t same old tire

Hildale was n A nice untalen ambition, her c

veloped—like thought forlor world was a c

For. And wit flash of light her emotion

wanted to guessed she feeling all cr

"Barbar She gave been writi

"Right he "Oh, u Hildale

newel. "I leta, will Barba

"Mother things."

"It's "Wh "Bei sonably he in"

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A **WISE** IDEA  
when Preparing  
for Winter!

**AC**

**OIL  
FILTERS**

Does Your  
Element Need  
Replacing?

WITH **ALUVAC** ELEMENT

## • AC's SEPTEMBER PROMOTION POSTER

By putting up this poster when you get it — early in September — and saying to oil change customers, "And I'll change the element too," surveys indicate you can sell new AC Aluvac elements to 7-out of 10 owners of oil filter equipped cars.



**WINTER'S  
ON THE WAY**

**AC**

Get a new set  
**TODAY**

**SPARK  
PLUGS**

**PATENTED  
CORALOX  
INSULATOR**

## • AC's OCTOBER PROMOTION POSTER

Fall's the time to suggest new spark plugs — ACs with patented **CORALOX** Insulator — to insure easy starting, fuel economy and top performance for the Winter ahead. Display this poster prominently to help sell more spark plugs.

AC SPARK PLUG DIVISION



GENERAL MOTORS CORPORATION

# WHAT GOES ON!

Dealers are talking. Thousands have acted.  
They've discovered this big, money-making fact  
... it PAYS to

## Switch to Exide

EXIDE, gives you more to sell—a bigger battery value for your customers' dollars. Exide supplies the program and the promotion that make sales climb. Exide provides the know-how to help you build a sound, profitable battery business.

**A COMPLETE LINE** with wide price range—ULTRA START...HYCAP...SURE-START...STARTEX.

**135,179,740** Exide National Advertising messages in 1952...will help you do a real selling job right in your own area.

**EXIDE SURE-START PROGRAM** with time-saving tools and equipment.

**SELLING AIDS** that assure quick, profitable battery sales.

**ATTENTION-WINNING DISPLAY MATERIAL**

ACT TODAY...*Switch to  
Exide*

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2

Exide Batteries of Canada, Limited, Toronto

**WHEN IT'S AN EXIDE...YOU START**

### ULTRA START has

#### SILVIUM

new grid alloy. Resists grid corrosion (caused by overcharging) ... contributing to longer battery life.

### ULTRA START has

#### G. O. X.

new active material. Takes full advantage of a lower gravity solution ... thus keeps up battery capacity for a longer time and reduces standing losses.

### ULTRA START has

#### PORMAX

new, practically indestructible separators—resist heat and acid, are flexible and tough, increase cold-weather starting ability.

### ULTRA START...

New leader of the famous  
Exide line

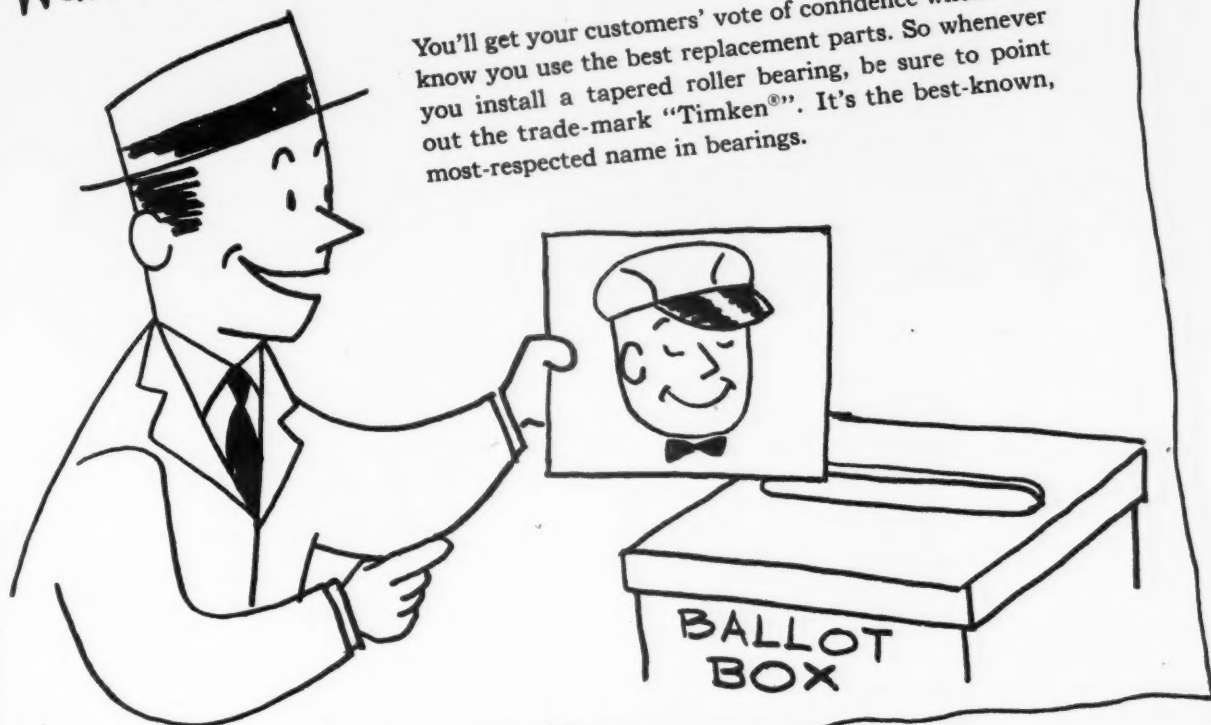


"EXIDE" "HYCAP" "STARTEX" "SILVIUM" "PORMAX" Reg. T.M. U.S. Pat. & Off.  
"ULTRA START" T.M. Reg. applied for

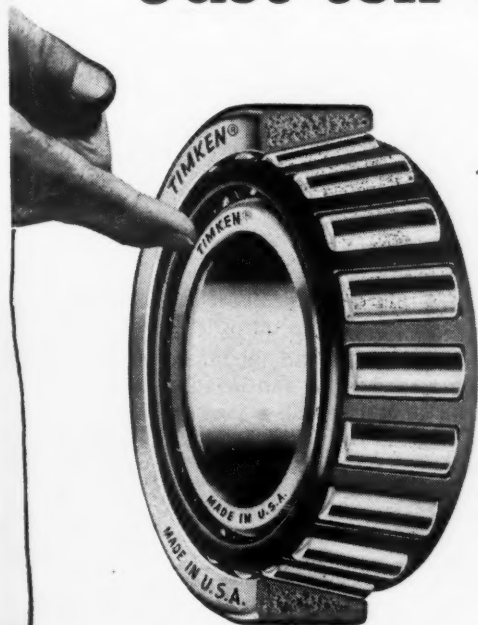


Want to win your customers' vote?

You'll get your customers' vote of confidence when they know you use the best replacement parts. So whenever you install a tapered roller bearing, be sure to point out the trade-mark "Timken®". It's the best-known, most-respected name in bearings.



Just tell 'em it's "TIMKEN®"



LEADING manufacturers of automotive, agricultural and industrial equipment make Timken tapered roller bearings their first choice for original equipment. That's because only Timken bearings offer all these advantages: 1) advanced design, 2) special analysis steels, 3) precision manufacture, 4) rigid quality control. And that's why it will pay you to be sure the trade-mark "Timken" is on every tapered roller bearing you install.

**FREE BOOKLET!** Get your copy of "Timken Tapered Roller Bearings, Their Care and Maintenance". Write Dept. AM-9, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO"

**TIMKEN** TAPERED ROLLER BEARINGS  
TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION



Posed for  
**PUROLATOR**  
by Bert Lahr,  
famous comedian,  
star of stage, screen,  
radio and television.

# LOVE THAT PUROLATOR!

**Dealers' eyes** reflect the gleam that's in Bert's. And why not? Purolators are selling bigger and bigger . . . with two profits on every sale—one on the refill—another on an extra quart of oil.

**Here's how it is!** A recent survey shows 9 out of 10 motorists buy when the dealer shows them a clogged filter, explains how dirt wrecks engines.

**And—most of these motorists** buy a Purolator\*

Micronic when they're told how Purolator element removes harmful abrasives . . . filters more dirt faster.

**Every car** on the road needs an oil filter; and every car with a filter needs, and can be sold, 2—or more—Purolator Micronic\* refills a year.

*So . . . stock Purolator to sell every car that calls!*

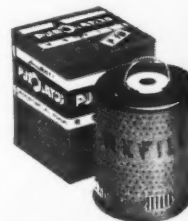
**REMEMBER**—first, last and always . . . Purolators are No. 1—with everyone! No. 1 in the way they're built! No. 1 in the way they're advertised and sold.

**PUROLATOR PRODUCTS, INC.**  
Rahway, New Jersey, and Toronto, Ontario, Canada

\*Reg. U.S. Pat. Off.

**PurOlator**  
(ENGINEERED FOR EVERY MAKE OF CAR)

*Micronic*  
**OIL FILTER**



for **BOTH**  
voltages...

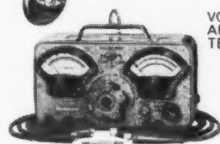
12



MASTER  
MOTOR  
TESTER



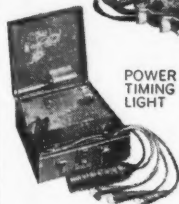
SUN  
makes it easier  
for you



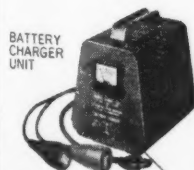
VOLTS  
AMPERE  
TESTER



BATTERY  
STARTER  
TESTER



POWER  
TIMING  
LIGHT



BATTERY  
CHARGER  
UNIT

**to service the cars of today...and tomorrow**  
...with test equipment in advance of the times

Here is an exceptional opportunity offered by SUN to every service shop... an opportunity to prepare and modernize—in advance—for new and revolutionary developments in the automotive industry.

Available NOW... is the newly engineered SUN Master Motor Tester and Accessory Group for completely and accurately testing both 6 and 12 volt automotive engines. Each of these new units has been designed to make every test on 6 and 12 volt systems in compliance with the car manufacturer's approved methods. It is now possible, with this new SUN Equipment, to modernize your testing department today—in the sure knowledge that these new units will not only service the cars and trucks of the present—but those of tomorrow as well.

To help you modernize... SUN has developed a Modernization Plan that tells you how easily you can convert your shop and equipment—with new 6-12 volt units... how your old 6 volt testers can be used as a valuable trade-in. Prepare for tomorrow—today! Talk to your nearest SUN Representative—or write directly to us for complete information on the Modernization Plan.

SUN Equipment is also available for fleet and military use—in 6-12-24 volt units.

**Sun**



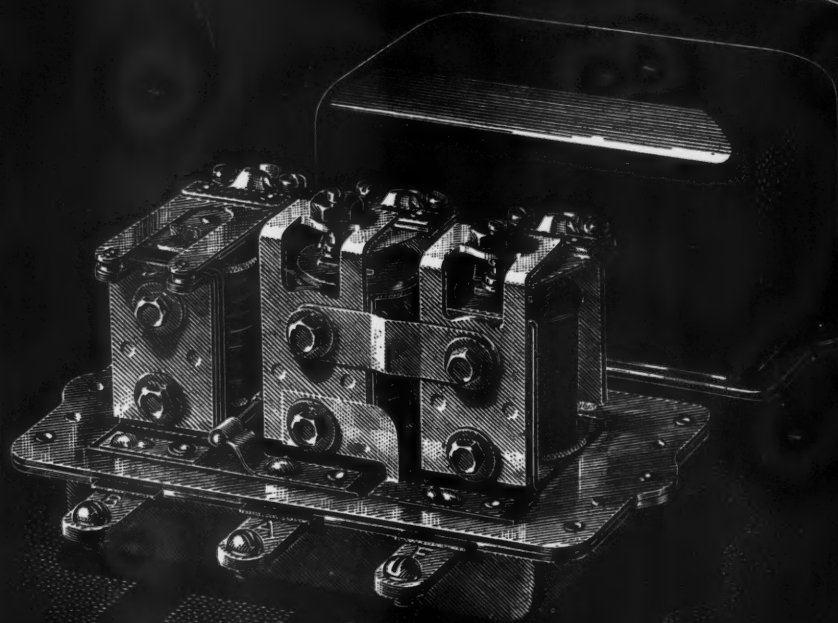
**ELECTRIC CORPORATION**

6353 AVONDALE AVENUE  
CHICAGO 31, ILLINOIS

SUN Technical Training Schools in 16 cities. Night and Day Courses.

R8061





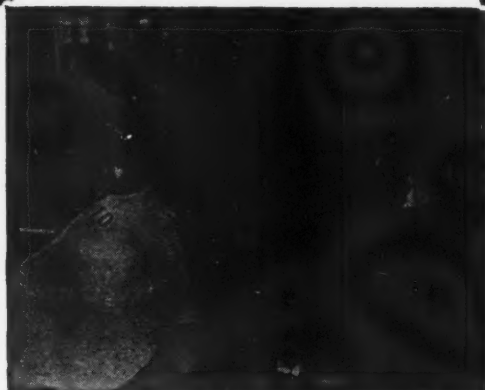
**ANOTHER ONE OF BLUE STREAK'S  
36,000 BOOSTERS!**

Here is a Blue Streak voltage regulator bared to the bones. Strip the cover off any other regulator, compare it with the Blue Streak — and this is what you'll find:

Where most conventional regulators have one contact, Blue Streak has two — to ease the "current burden". Where others have fragile materials in their field resistors, Blue Streak uses tough, heat-resistant fibre glass. Where others rivet contacts to brackets, Blue Streak contacts are screwed in — there's no bending of parts to align contacts or adjust the gap. Where others have a completely exposed undersurface, the bottom of the Blue Streak regulator is covered and protected.

So here's a regulator that lasts longer, spreads your good name. And for all that, you pay only a bit more. *Standard Motor Products, Inc., Long Island City 1, New York.*

***Better your Business...  
Buy Blue Streak***



"I feature BLUE STREAK to my tune-up trade," says *T. E. Colgin, Chester, Va.*, shown installing BLUE STREAK points and condenser in a Virginia State Police car, where dependability is vital. "*T. E.*" says: "Because BLUE STREAK parts give such dependable service, it pays us to use them and avoid complaints."



COILS • POINTS • CONDENSERS • VOLTAGE REGULATORS • HEADLIGHT RELAYS • DISTRIBUTOR HEADS & ROTORS • DIMMER SWITCHES • WIRE & CABLE

# SIGN OF GOOD QUALITY

When you service Plymouth, Dodge, De Soto and Chrysler cars and Dodge "Job-Rated" trucks with MoPar parts and accessories, folks just seem to know that you specialize in quality merchandise and quality service . . . that you operate a quality shop.

For one thing, these genuine Chrysler Corporation parts and accessories are made to the same high standards as original parts. They're *tops* in quality. They're easy to install. They help restore new-car and new-truck pep, power, performance—and economy.

All this means that you keep your customers happy. They keep coming back to you for service. They tell their friends . . . help bring you extra business.

One of the best ways to let people know that you recommend and install genuine Chrysler Corporation parts and accessories is to display the MoPar sign . . . the sign of good quality. Find out today how you can obtain a MoPar sign. Just write to Chrysler Corporation—Parts Division, Advertising Department, Detroit 31, Michigan.

**CHRYSLER CORPORATION—PARTS DIVISION, DETROIT, MICHIGAN**



---

The Philadelphia Phillies' lead in the National League race was squandered in six games when they lost to the Brooklyn Dodgers in Philadelphia, 2 to 1, Sept. 1.

Isidro Gonsales, S. U., Jan 1  
(11)—The Winter Harbors  
cal committee today ap  
Lioman coast  
a court  
olene

BEST IN NEW CARS! BEST IN OLD CARS!



# NEW Scene

NEWS DIGEST OF THE MONTH IN PICTURES AND FACT • • SEPTEMBER 1952

## ... WE COVER THE AUTO FRONT ...

### New Car Market

The experience of automobile dealers during and after the steel strike leads many thoughtful observers to take another look at the new car market. While business did pick up, it was not on any spectacular scale, and buyers practiced a great deal of discrimination and caution. Apparently the public is not being stampeded into scare buying by reports of shortages. Something like 29 million new cars have been built since the end of the war and the plain fact is that there is no hunger for new cars, as existed in immediate post-war years, at least to the point where buyers will pay any price to get the merchandise.

New car production is rolling again and, while it will take a little time to overcome the effects of the steel strike, the outlook for good production the rest of this year and heavier output in the first quarter of next year does not augur a car shortage for very long.

### Man With a Mission



### Austin's New "Economy" Convertible

The Somerset convertible now being introduced in America by Austin features a three-position top that turns it into an open car, a completely closed convertible, and a coupe de ville with the top covering the back seat but not the front. The five passenger convertible is built on the A 40 chassis and uses the A 40 engine.

### New Models Due

In view of the competitive market looked for next year, new model changes will be pretty important. In general they will feature higher horsepowers, wider use of devices to make driving easier—such as power steering and power brakes—and 12-volt ignition on high priced lines, and styling featured by larger glass areas and cleaner lines. Three new engines are coming—overhead valve V-8's on Dodge and Buick Roadmaster, and a new engine in Hudson's light car.

New model introductions probably will start in October with Packard, to be followed by Chrysler with completely new styling, about the first of November. General Motors announcements will start in December and extend into January in connection with the General Motors auto show to be held at the Waldorf in New York around mid-January.

The new Lincoln line is scheduled for November or December, to be followed by Mercury and Ford. Hudson will announce its new light car and model changes on its present line in October or November, according to present plans. Announcement dates on the other independents still are not clear.

### Parts Estimate

Earlier estimates that automotive replacements parts business this year will run somewhere in the neighborhood of 10 per cent above 1951 still stand despite the somewhat disappointing performance during the first half of the year which was only slightly ahead of a year ago. It is reported that during July sales took a healthy turn upward and the trend is expected to continue. During the first half there was a considerable inventory shake-down and the belief is that business will be on a higher plane for the rest of the year.

## Revised Quotas

After weeks of squabbling, NPA has revised individual automobile company quotas slightly for the fourth quarter of this year. The Big Three and Studebaker together, will get 1.32 per cent more of total production than they are currently, with the remaining companies taking correspondingly less. Basis for the action was that the seven companies receiving quota cuts did not build all the units to which they were entitled. Although the cuts appeared small, they average about 10 per cent of the previous allotment unit-wise for the seven companies affected. However, Kaiser-Frazer was cut nearly 20 per cent, and Hudson about 15 per cent, below their unit allowance during the present quarter.

## GMAC Decree

After 13 years fighting the issue in Federal Courts, General Motors finally has accepted a consent decree involving both the corporation and its subsidiary, GMAC in regard to equal opportunities for other finance companies to participate in sales of GM cars. The case dates back to 1939, when a jury convicted the two companies of anti-trust violations. General Motors, unlike Chrysler and Ford, which a year earlier had bowed to consent decrees and had severed their connection with subsidiary finance companies, continued the legal battle until late in July of this year. The consent decree enjoins GM and its subsidiary from

discriminating against independent finance companies and requires the defendants to give equal opportunities to independents and to cooperate with them on finance sales through GM dealers. It also provides that any services supplied to GMAC by General Motors must be given to other firms participating in GM time sales, and prohibits the corporation from cancelling franchises of dealers who do not use GMAC financing exclusively. The decree was opposed by an attorney representing independent finance companies who stated that GM still practiced discrimination and that complete separation of GMAC was the only solution. However, the Federal judge in Chicago accepted the recommendation of an assistant United States attorney general that the decree be entered in the absence of any evidence of discrimination.

## High Class Battle

It is no secret that Lincoln, Chrysler and Packard all are preparing a determined assault against Cadillac's No. 1 position as the prestige car. They have intensive quality programs aimed at capturing a greater share of the select market, and competition in that segment certainly is going to be much keener. This is particularly true of Packard under its new president, James J. Nance, where a great deal of reorganization has been going on. It is no secret that Packard will attempt to regain the eminent position it once held.

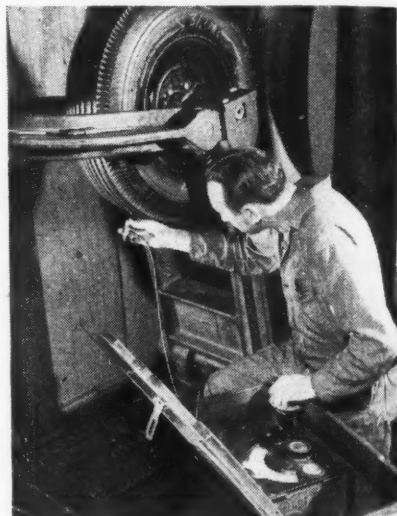


## Mercedes is Back . . .

The German Mercedes 300 SL Racing car, winner of the last LeMans, France, Duration Race, shows off its new sports body. Its engine, which recently got a compressor, is expected to exceed 300 hp.

## Air Conditioning

Chrysler Corporation have announced that they are in production on a high capacity air-conditioning system for use in passenger automobiles. Their system draws fresh air from outside the car into the cooling system, thus preventing staleness. The air is forced into a car through a grille located on the shelf behind the rear seat.



A Goodrich engineer takes the temperature of a test tire with a needle. "Fever" is the prime cause of tire failures.

## 12-Volt Ignition

Adoption of 12-volt ignition next year by at least four companies will mean changes in equipment for servicing these vehicles. However, it is not likely that it will require a whole new set of electronic testing equipment. One of the largest suppliers of testing and analysis devices is developing an adaptor so that present equipment can be used for both 6- and 12-volt ignition systems. Oldsmobile, Cadillac, Chrysler and the Buick Roadmaster are expected to have 12-volt ignition in 1953.

## Midwest

Retail auto dealers in Chicago, coming out of a summer slump which could have been worse if more cars had been produced, are looking forward to a good fall season.

With dates of the 1953 Chicago Automobile Show approximately a month later than a year ago—they have been set for March 14 to 22 inclusive—dealers feel that con-

sumers won't feel the stimulus for new 1953 models as soon as they did this year. This is expected to be somewhat of an advantage from the point of view of those who might have 1952 models on hand.

Frank H. Yarnall, well-known Chevrolet dealer, will again be chairman of the Auto Show, sponsored by the Chicago Auto Trades Association.

In Sunday-dry Pennsylvania, Philadelphia cops uncovered a panel truck allegedly equipped to dispense liquor to the thirsty on the q.t. This modern merchandising method had a successful run until the law caught up with the rolling liquor library and the alleged operator was hailed into court.

### Polaroid Lighting

Polaroid headlighting, rejected by the automotive industry on the grounds of safety and higher costs to motorists, is being pushed by its proponents in legislative assemblies. A study committee from the Massachusetts legislature is preparing a report and recommendations early next year on the question. A similar bill was defeated in New York last year but will be re-introduced at the next session. The automobile industry rejected Polaroid in 1947, after an exhaustive test and demonstration on the basis that, unless all cars on the road could be simultaneously equipped with it, hazard to non-Polaroid drivers would be too great. Also, cost of changing over old cars and equipping new ones would be very high. It is estimated that if Polaroid were to be adopted in Massachusetts it would cost motorists in that state \$50 million for the equipment.

General Motors dealers will cooperate with the American Association of Motor Vehicle Administrators in a campaign to check headlight adjustments this fall. AMVA believes that many accidents are caused by glare from improperly aimed and adjusted head-

lights, and is asking the dealers to emphasize checking and adjusting headlights to all customers.

### Employees Wages

Employees in automotive repair shops will continue to be under government wage controls unless there is a basic change in rules applying to this type of business.

No important Administration policy move that will directly affect the pay of maintenance men can be foreseen at this time. An Economic Stabilization Agency order continuing wage and salary controls over nine classes of small business is still a few weeks old.

If total employment in an enterprise includes more than 15 persons, controls over pay are a standard requirement. On the other hand, the new order makes clear that even if firms in nine specified classes have eight or fewer employees, these also are subject to wage limitations.

The basic controls law gives the Administration the right to insist on limitations over pay practices in various businesses if there is a belief the "unstabilizing" conditions otherwise would result. Without saying just why practices in these fields might cause an unstable situation, ESA recently listed for controls auto repair firms and many others.

### Power Steering

Power steering has gained amazing customer acceptance and is highly likely to be extended downward into lower priced lines in the future. General Motors apparently is convinced that demand for the unit will greatly increase, and is planning to build a new plant to expand its power steering manufacture at Saginaw, Mich. On the basis of expected employment, production would be up nearly 40 per cent. It is possible that power steering may be extended to Pontiac next year. Lincoln also will have power steering in 1953, probably the Bendix unit, which has been adopted by Packard.

We have mentioned previously that other companies are preparing to challenge Hudson's position as leader in the stock car racing field. In evidence, Oldsmobile is reported to have available three different ring gear and pinion sets for drivers of 1951 and 1952 88's in stock car races. It is highly likely that other companies also will offer special equipment or services.

### Vote, Vote, Vote

The interest in N.A.D.A.'s "Get-Out-The-Vote" program is continuing high. In communities where the activity is legal, dealers are organizing in an attempt to get as many people as possible to the polls.



How crazy can a cow get? In the excitement of having her first calf, this determined bovine from the Win-Del ranches near here decided the middle of a shallow lake would be the ideal spot. Not even ponies and ropes could budge the stubborn cow. For a while "udder confusion" reigned until someone hooked a line onto a Jeep. At last report, cow and her daughter were doing nicely, thank you.



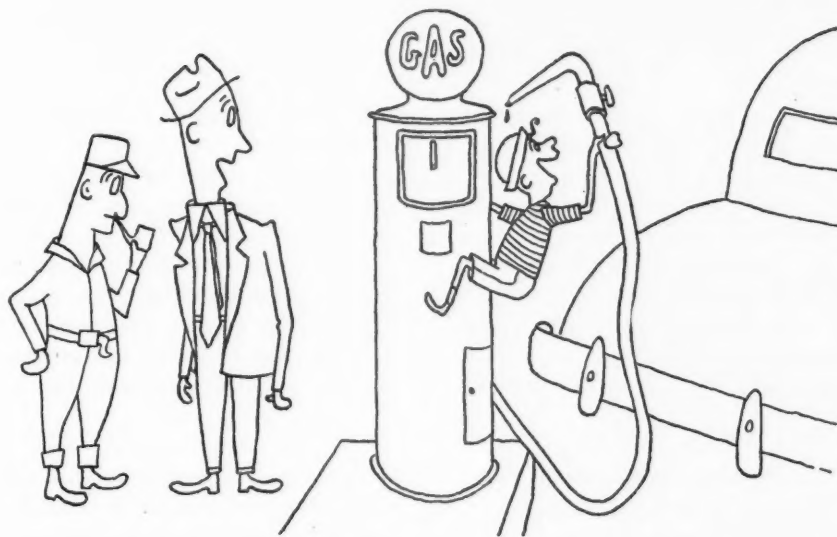
# 1952 New Passenger Car Registrations by Makes by States\*

| STATE AND MONTH          | Buick | Cadillac | Chevrolet | Chrysler | Crosley | De Soto | Dodge | Ford  | Henry J | Hudson | Kaiser | Lincoln | Mercury | Nash | Oldsmobile | Packard | Plymouth | Pontiac | Studebaker | Willlys | All Others | Total   |
|--------------------------|-------|----------|-----------|----------|---------|---------|-------|-------|---------|--------|--------|---------|---------|------|------------|---------|----------|---------|------------|---------|------------|---------|
| Alabama..... June        | 360   | 70       | 1276      | 132      | 2       | 65      | 275   | 985   | 64      | 98     | 40     | 41      | 220     | 163  | 219        | 122     | 619      | 344     | 174        | 95      | 8          | 5,382   |
| 6 Mos.                   | 1899  | 330      | 6173      | 561      | 12      | 342     | 1297  | 4555  | 336     | 395    | 180    | 178     | 1024    | 631  | 1157       | 396     | 2696     | 1585    | 1036       | 307     | 39         | 25,099  |
| Arizona..... June        | 191   | 40       | 491       | 58       | 4       | 51      | 117   | 351   | 53      | 50     | 18     | 21      | 135     | 85   | 124        | 58      | 202      | 137     | 142        | 16      | 25         | 2,349   |
| 6 Mos.                   | 832   | 164      | 1830      | 262      | 19      | 185     | 466   | 1582  | 176     | 221    | 71     | 62      | 569     | 229  | 493        | 183     | 819      | 607     | 564        | 93      | 110        | 9,543   |
| Arkansas..... June       | 136   | 27       | 433       | 41       | 3       | 36      | 190   | 403   | 30      | 25     | 11     | 9       | 89      | 57   | 105        | 20      | 233      | 132     | 80         | 16      | 2          | 2,118   |
| 6 Mos.                   | 981   | 205      | 3437      | 297      | 16      | 288     | 937   | 2782  | 180     | 167    | 128    | 70      | 606     | 434  | 665        | 160     | 1983     | 982     | 649        | 143     | 21         | 15,311  |
| California..... June     | 2010  | 908      | 5869      | 1214     | 20      | 907     | 2364  | 4545  | 168     | 752    | 464    | 321     | 1750    | 1568 | 1680       | 705     | 3765     | 2370    | 1639       | 387     | 1019       | 34,423  |
| 6 Mos.                   | 11715 | 4632     | 33649     | 5946     | 79      | 4594    | 9529  | 26821 | 760     | 3945   | 1580   | 1268    | 9630    | 6893 | 9383       | 2926    | 18915    | 10834   | 8868       | 1843    | 4953       | 176,063 |
| Colorado..... June       | 307   | 70       | 678       | 108      | 3       | 66      | 221   | 628   | 23      | 107    | 20     | 30      | 148     | 118  | 176        | 39      | 417      | 215     | 107        | 48      | 16         | 3,545   |
| 6 Mos.                   | 1635  | 348      | 3333      | 614      | 32      | 328     | 884   | 3090  | 60      | 509    | 86     | 148     | 832     | 591  | 960        | 237     | 1939     | 1075    | 679        | 214     | 73         | 17,967  |
| Connecticut..... June    | 392   | 145      | 1034      | 191      | 2       | 144     | 596   | 885   | 114     | 166    | 89     | 46      | 262     | 300  | 337        | 152     | 638      | 417     | 224        | 122     | 86         | 6,342   |
| 6 Mos.                   | 2238  | 728      | 5857      | 1039     | 26      | 730     | 2436  | 4849  | 460     | 756    | 433    | 233     | 1391    | 1175 | 1957       | 702     | 3289     | 1995    | 1381       | 396     | 429        | 32,800  |
| Delaware..... June       | 117   | 31       | 355       | 28       | 3       | 12      | 86    | 240   | 11      | 20     | 16     | 9       | 42      | 40   | 91         | 16      | 132      | 74      | 93         | 9       | 5          | 1,430   |
| 6 Mos.                   | 497   | 128      | 1364      | 136      | 11      | 94      | 373   | 1182  | 67      | 115    | 64     | 34      | 237     | 182  | 374        | 80      | 588      | 345     | 428        | 28      | 32         | 6,399   |
| Dist. of Col. June       | 136   | 47       | 525       | 75       | 1       | 41      | 156   | 299   | 30      | 39     | 13     | 12      | 52      | 50   | 102        | 36      | 387      | 131     | 43         | 14      | 18         | 2,207   |
| 6 Mos.                   | 656   | 255      | 2333      | 335      | 3       | 184     | 776   | 1508  | 113     | 187    | 51     | 61      | 306     | 230  | 597        | 204     | 2261     | 715     | 314        | 64      | 74         | 11,227  |
| Florida..... June        | 582   | 185      | 1477      | 207      | 30      | 132     | 566   | 1141  | 127     | 125    | 47     | 81      | 351     | 352  | 347        | 271     | 830      | 445     | 246        | 134     | 132        | 7,708   |
| 6 Mos.                   | 3184  | 917      | 7828      | 1162     | 182     | 667     | 2703  | 6362  | 666     | 567    | 302    | 382     | 1941    | 1401 | 1984       | 805     | 4311     | 2393    | 1585       | 549     | 796        | 40,687  |
| Georgia..... June        | 664   | 149      | 2104      | 221      | 10      | 111     | 578   | 1585  | 113     | 108    | 52     | 34      | 351     | 208  | 443        | 131     | 909      | 589     | 297        | 81      | 19         | 8,757   |
| 6 Mos.                   | 3203  | 630      | 9446      | 910      | 34      | 538     | 2388  | 7371  | 504     | 458    | 275    | 225     | 1817    | 815  | 2081       | 534     | 4235     | 2915    | 1698       | 323     | 138        | 40,538  |
| Idaho..... June          | 190   | 32       | 420       | 57       |         | 35      | 125   | 317   | 19      | 69     | 29     | 12      | 83      | 83   | 122        | 40      | 183      | 123     | 106        | 54      | 8          | 2,108   |
| 6 Mos.                   | 840   | 163      | 1838      | 236      |         | 180     | 484   | 1441  | 56      | 324    | 137    | 57      | 525     | 371  | 493        | 179     | 855      | 522     | 572        | 174     | 35         | 9,482   |
| Illinois..... June       | 2100  | 626      | 5188      | 812      | 16      | 570     | 2147  | 4026  | 177     | 795    | 240    | 154     | 1098    | 1229 | 1435       | 424     | 3554     | 1659    | 916        | 148     | 50         | 27,384  |
| 6 Mos.                   | 12821 | 3364     | 29149     | 4559     | 126     | 3744    | 10058 | 24106 | 711     | 4128   | 1279   | 881     | 6531    | 6587 | 8014       | 2398    | 18815    | 8967    | 5896       | 674     | 757        | 153,585 |
| Indiana..... June        | 847   | 213      | 2681      | 350      | 10      | 286     | 859   | 2029  | 132     | 263    | 136    | 97      | 459     | 508  | 634        | 207     | 1433     | 834     | 819        | 121     | 17         | 12,935  |
| 6 Mos.                   | 4532  | 1029     | 13778     | 1776     | 53      | 1453    | 3628  | 10538 | 528     | 1306   | 664    | 346     | 2211    | 2292 | 3240       | 938     | 7116     | 4039    | 4485       | 465     | 65         | 64,482  |
| Iowa..... June           | 484   | 117      | 1781      | 188      | 2       | 136     | 467   | 1356  | 35      | 70     | 63     | 49      | 360     | 290  | 386        | 91      | 850      | 450     | 333        | 37      | 8          | 7,553   |
| 6 Mos.                   | 2629  | 596      | 9028      | 1054     | 8       | 698     | 2213  | 7158  | 165     | 402    | 303    | 187     | 1616    | 1241 | 1923       | 450     | 4316     | 2243    | 1656       | 203     | 24         | 38,113  |
| Kansas..... June         | 524   | 71       | 1401      | 150      | 4       | 99      | 457   | 1088  | 52      | 152    | 60     | 43      | 259     | 333  | 304        | 103     | 679      | 389     | 209        | 43      | 3          | 6,423   |
| 6 Mos.                   | 2420  | 433      | 6729      | 815      | 24      | 566     | 1860  | 5531  | 311     | 822    | 415    | 163     | 1302    | 1358 | 1540       | 527     | 3290     | 1821    | 1254       | 176     | 21         | 31,378  |
| Kentucky..... June       | 349   | 75       | 1211      | 123      | 7       | 62      | 364   | 998   | 32      | 81     | 26     | 21      | 173     | 228  | 241        | 70      | 516      | 314     | 195        | 49      | 7          | 5,142   |
| 6 Mos.                   | 1798  | 347      | 6070      | 678      | 20      | 374     | 1714  | 4742  | 194     | 392    | 159    | 79      | 912     | 1051 | 1321       | 361     | 2836     | 1595    | 1217       | 252     | 49         | 26,161  |
| Louisiana..... June      | 311   | 70       | 1147      | 106      | 5       | 82      | 279   | 892   | 54      | 45     | 34     | 25      | 150     | 149  | 232        | 109     | 605      | 359     | 244        | 51      | 10         | 4,959   |
| 6 Mos.                   | 1648  | 345      | 6255      | 679      | 34      | 534     | 1498  | 4733  | 261     | 226    | 248    | 143     | 946     | 770  | 1248       | 489     | 3096     | 1851    | 1371       | 211     | 66         | 26,652  |
| Maine..... June          | 142   | 27       | 445       | 61       |         | 51      | 163   | 343   | 51      | 70     | 31     | 17      | 75      | 82   | 110        | 35      | 260      | 157     | 76         | 46      | 13         | 2,255   |
| 6 Mos.                   | 603   | 136      | 2025      | 236      | 14      | 211     | 557   | 1468  | 174     | 195    | 116    | 71      | 339     | 301  | 541        | 107     | 1009     | 638     | 345        | 130     | 43         | 9,299   |
| Maryland..... June       | 385   | 95       | 1434      | 169      | 3       | 126     | 528   | 1182  | 159     | 174    | 66     | 46      | 240     | 270  | 305        | 128     | 831      | 443     | 222        | 79      | 15         | 6,900   |
| 6 Mos.                   | 2055  | 452      | 7689      | 950      | 17      | 740     | 2070  | 5939  | 620     | 852    | 331    | 179     | 1347    | 1218 | 1639       | 586     | 4114     | 2008    | 1309       | 263     | 123        | 34,481  |
| Massachusetts..... June  | 805   | 197      | 2151      | 363      | 14      | 375     | 1103  | 1813  | 138     | 195    | 89     | 73      | 429     | 592  | 784        | 192     | 1589     | 869     | 405        | 115     | 98         | 12,389  |
| 6 Mos.                   | 4150  | 1029     | 11316     | 1791     | 94      | 1794    | 4346  | 9128  | 671     | 998    | 467    | 337     | 2270    | 2381 | 4127       | 898     | 7827     | 4004    | 2465       | 468     | 516        | 61,075  |
| Michigan..... June       | 2774  | 719      | 6194      | 657      | 11      | 600     | 1916  | 6393  | 202     | 472    | 339    | 214     | 1377    | 1151 | 1731       | 494     | 2957     | 2344    | 816        | 202     | 56         | 31,621  |
| 6 Mos.                   | 12195 | 3982     | 32229     | 3151     | 53      | 2549    | 7663  | 28993 | 912     | 2293   | 1405   | 992     | 5998    | 4579 | 8197       | 2008    | 13966    | 11146   | 4039       | 678     | 162        | 149,090 |
| Minnesota..... June      | 634   | 141      | 2043      | 324      | 3       | 252     | 784   | 1684  | 39      | 131    | 92     | 29      | 378     | 351  | 499        | 148     | 1320     | 634     | 370        | 36      | 12         | 9,894   |
| 6 Mos.                   | 3673  | 748      | 11577     | 1572     | 8       | 1159    | 2821  | 8617  | 245     | 630    | 455    | 169     | 1774    | 1375 | 2151       | 814     | 5907     | 3047    | 2441       | 239     | 60         | 49,496  |
| Mississippi..... June    | 241   | 40       | 775       | 90       | 2       | 46      | 180   | 529   | 28      | 39     | 15     | 21      | 107     | 86   | 156        | 46      | 381      | 217     | 132        | 38      | 1          | 3,130   |
| 6 Mos.                   | 1378  | 253      | 4204      | 446      | 14      | 252     | 880   | 3092  | 204     | 177    | 123    | 89      | 702     | 434  | 790        | 250     | 2056     | 1090    | 852        | 162     | 16         | 17,417  |
| Missouri..... June       | 749   | 160      | 2507      | 245      | 8       | 228     | 708   | 2118  | 109     | 112    | 60     | 48      | 398     | 521  | 483        | 175     | 1362     | 668     | 311        | 73      | 14         | 11,055  |
| 6 Mos.                   | 3657  | 784      | 12319     | 1323     | 33      | 1181    | 2805  | 9791  | 332     | 634    | 317    | 226     | 2079    | 2380 | 2321       | 839     | 6462     | 2939    | 1774       | 280     | 65         | 52,531  |
| Montana..... June        | 149   | 46       | 436       | 56       |         | 35      | 120   | 425   | 10      | 67     | 16     | 9       | 94      | 53   | 114        | 20      | 223      | 124     | 93         | 32      | 2          | 2,124   |
| 6 Mos.                   | 763   | 186      | 2066      | 267      | 4       | 179     | 517   | 1663  | 49      | 281    | 76     | 61      | 448     | 203  | 575        | 121     | 937      | 515     | 486        | 155     | 7          | 9,529   |
| Nebraska..... June       | 382   | 85       | 980       | 126      | 3       | 56      | 274   | 1079  | 23      | 66     | 38     | 39      | 190     | 130  | 213        | 48      | 467      | 358     | 169        | 36      | 5          | 4,775   |
| 6 Mos.                   | 1881  | 386      | 4563      | 687      | 14      | 342     | 1061  | 4553  | 92      | 276    | 161    | 131     | 909     | 606  | 1085       | 253     | 2359     | 1502    | 922        | 170     | 12         | 22,030  |
| Nevada..... June         | 35    | 16       | 131       | 24       | 3       | 6       | 47    | 65    | 1       | 18     | 1      | 8       | 39      | 17   | 34         | 15      | 64       | 32      | 51         | 11      | 1          | 619     |
| 6 Mos.                   | 207   | 77       | 552       | 126      | 6       | 60      | 192   | 344   | 6       | 61     | 7      | 18      | 164     | 25   | 156        | 85      | 290      | 146     | 193        | 31      | 17         | 2,785   |
| New Hampshire..... June  | 74    | 13       | 263       | 37       | 1       | 17      | 98    | 226   | 23      | 30     | 12     | 7       | 46      | 62   | 75         | 32      | 151      | 88      | 47         | 25      | 16         | 1,353   |
| 6 Mos.                   | 539   | 95       | 1751      | 205      | 11      | 137     | 497   | 1182  | 127     | 206    | 156    | 62      | 265     | 363  | 428        | 125     | 824      | 614     | 368        | 145     | 104        | 8,202   |
| New Jersey..... June     | 1071  | 384      | 2925      | 523      | 11      | 375     | 1230  | 2368  | 262     | 426    | 200    | 142     | 651     | 605  | 877        | 392     | 1634     | 1226    | 806        | 239     | 142        | 16,289  |
| 6 Mos.                   | 6785  | 1751     | 14742     | 2654     | 68      | 1909    | 5130  | 11958 | 815     | 1863   | 862    | 486     | 3552    | 2297 | 4235       | 1776    | 7900     | 5480    | 3202       | 770     | 622        | 77,788  |
| New Mexico..... June     | 144   | 27       | 287       | 55       | 4       | 31      | 93    | 230   | 6       | 34     | 4      | 17      | 75      | 56   | 86         | 26      | 169      | 95      | 76         | 31      | 8          | 1,554   |
| 6 Mos.                   | 739   | 135      | 1503      | 240      | 24      | 153     | 451   | 1195  | 27      | 153    | 28     | 65      | 439     | 239  | 389        | 143     | 840      | 472     | 495        | 117     | 40         | 7,914   |
| New York..... June       | 2637  | 891      | 5569      | 1098     | 21      | 1058    | 3402  | 4150  | 325     | 730    | 340    | 258     | 1226    | 1418 | 1971       | 718     | 3470     | 2277    | 1118       | 445     | 309        | 33,431  |
| 6 Mos.                   | 14318 | 4528     | 30597     | 6031     | 166     | 5656    | 13838 | 23739 | 1743    | 3701   | 2113   | 1227    | 7058    | 5961 | 10437      | 3636    | 17525    | 11879   | 6432       | 1866    | 1860       | 174,341 |
| North Carolina..... June | 577   | 128      | 1730      | 209      | 6       | 141     | 500   | 1216  | 95      | 102    | 64     | 47      | 282     | 230  | 363        | 137     | 792      | 677     | 302        | 136     | 20         | 7,754   |
| 6 Mos.                   | 3170  | 681      | 8943      | 884      | 38      | 731     | 2131  | 7121  |         |        |        |         |         |      |            |         |          |         |            |         |            |         |

# Chilton's MOTOR AGE

An EDITORIAL

## Lets All Go Back to School



"... and the heck of it is we're going to lose him when school starts!"

**A** LITTLE bit of re-learning can't be a dangerous thing. It might even help if we undertook a little-retraining in the lessons we've almost forgotten.

Re-training in the ways to sell. These have been lush years, easy-selling days, wherein we've been dealing in dollars with an auto as the medium of exchange. Let's go back to school, and re-study how to find prospects, how to present our story, how to merchandise and sell in hard times, just in case.

Just in case, let's reinvestigate the wisdom of those who have analyzed the

future market for automotive service. You can share in the greatest shake the automotive service industry has ever known if you are organized to merchandise auto maintenance as the public wants it.

Of course, that requires some real study. Is the public with you or isn't it? We're not talking about big, overall public relations gimmicks, now—we mean, how are you getting along with your wife? That's an easy way to find out how successful you are.

*Frank P. Tighe*

EDITOR

# Tips on Timing Valves

This article will help a mechanic to learn about or brush up on proper methods for timing valves.

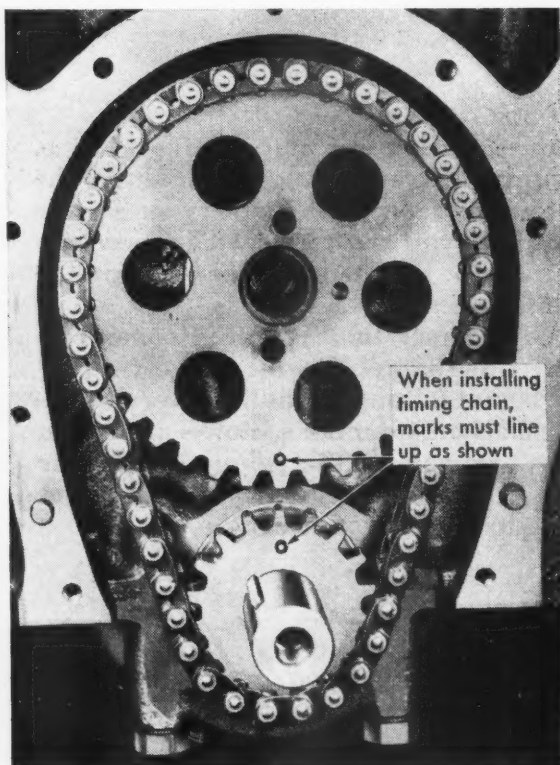
**E**NGINES using a chain and sprockets are so arranged that if they are not deliberately disturbed, the valve timing will remain essentially as set when the engine was assembled, unless the chain or sprocket is badly worn or damaged. Normally, even serious wear on the sprockets will not cause material change in the valve timing itself, up to the point where the chain or sprockets become loose enough to permit the valve timing to jump. No serious

change in the valve timing takes place because of the wear.

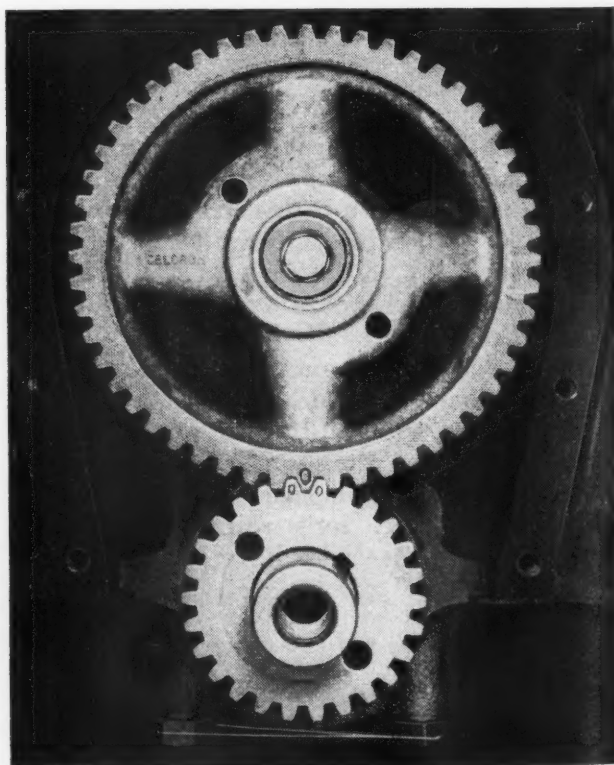
On Buicks when it becomes necessary to replace either the sprockets or chain or both, proceed as follows:

Remove the front end sheet metal assembly, including the radiator core, from the car. Disconnect the engine front mounting bolts and prop up the front of the engine. Remove the vibration damper and timing case cover. Remove

Chain and sprocket arrangement on Cadillac overhead valve engines.



Timing gear arrangement on Studebaker V-8 engines. Note position of marked gear teeth.





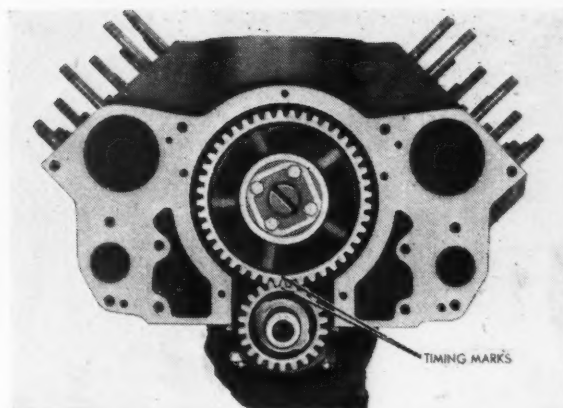
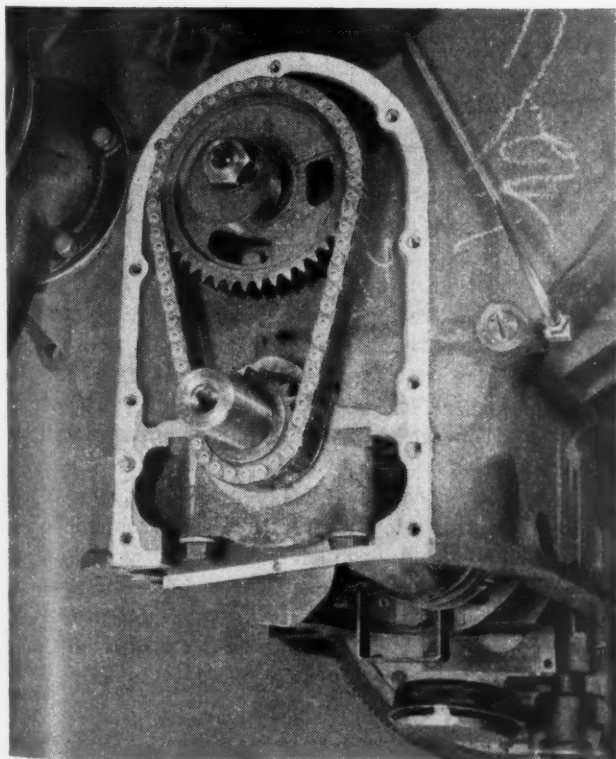
by Jack Montgomery

## for timing chain and gear installations

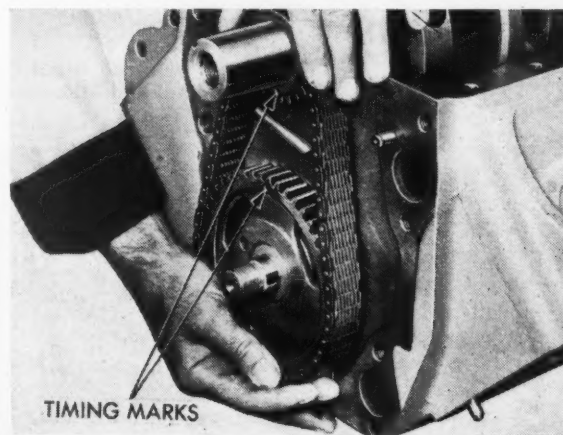
both the chain and sprockets. The new chain and sprocket should be assembled on the bench in the relative position they occupy on the engine and they should be set up so that there are 11 pins on the timing between the mark on the camshaft and the mark on the crankshaft sprocket, counting the pin at each mark.

Note carefully the position of the key-way on both sprockets and rotate the shaft so that the  
(Continued on page 102)

Chain and sprocket arrangement on Cadillac L-head engines.

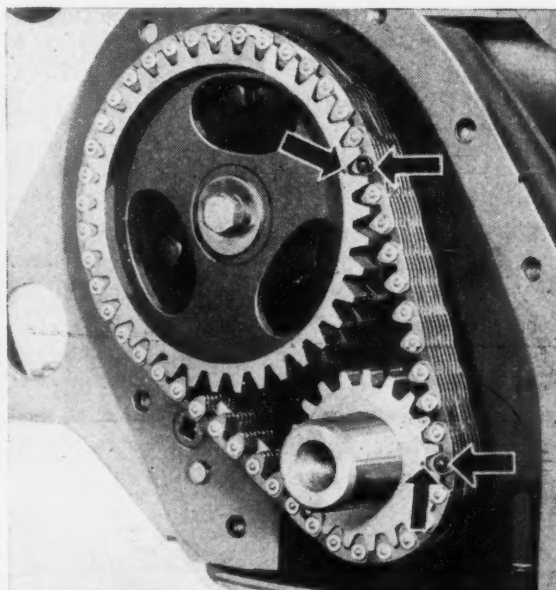


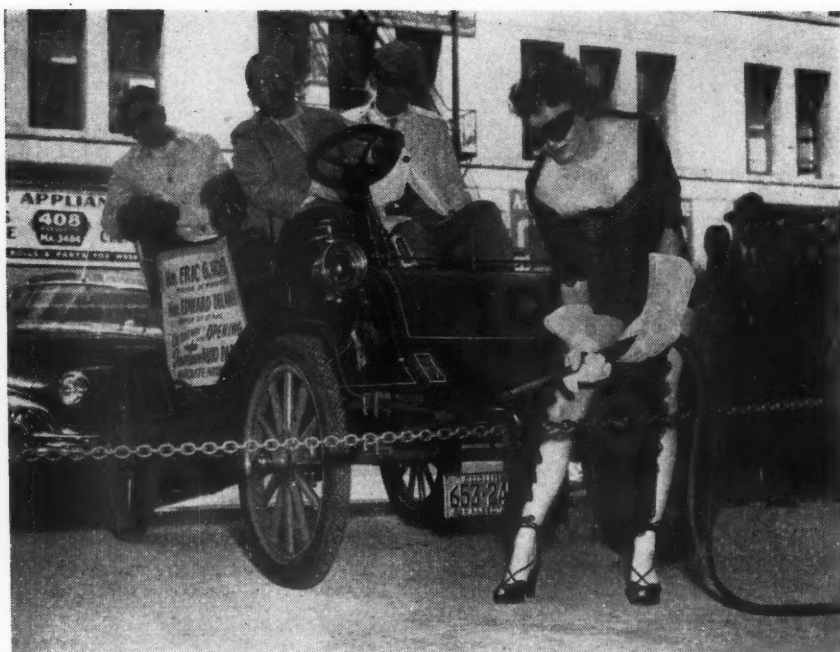
Cam and crank gear arrangement on Ford-Mercury and Lincoln.



Sprocket and chain in correct position on 1952 De Soto and Chrysler V-8 engines.

View of chain and sprocket arrangement on Buick engines.





A model cuts the chain to admit the first car, a 1903 Ford bearing the Mayors of St. Paul and Minneapolis, to Minneapolis' parking ramp.

## Clear the Streets

**Experts say that any successful parking plan needs a spark-plug. These case histories show how you may help your town**

by Henry L. Evans

**W**ITHIN the last few years, merchants have become painfully aware that downtown streets won't stretch to store all or the large part of the vehicles they carry. Extensive off-street parking capacity has become a necessity.

The handwriting is on the wall for curb parking everywhere, for the tempo of street movement is certain to accelerate.

The invention of the parking meter by Carl C. Magee and its first installation in Oklahoma City in 1935, started a rush to meter the curbs of America. Today, a million meters are in service, but parking demand is out-racing the supply.

"Obsolescence" . . . "decentralization" . . . these are some of the terms used to tell the outcome—the kind of words that crisp the average downtown merchant's hair and make his toes curl up. In Baltimore and Kansas City, Mo., the parking space shortage is blamed for the loss of \$60 million in the assessment base of downtown properties. Boston reported a \$465 million decline. Detroit says it suffered a \$200 million loss. And these losses, no less real than fire or flood, are not the kind on which an insurance company will take the risk.

Minneapolis business leaders first came to close and realistic grips with their problem in April 1950, although much preliminary work had been accomplished. The city's engineering consultants offered a choice of three downtown

*(Continued on page 130)*

**I**NSPECTORS who go over the Soap Box Derby cars for evidence of adult handiwork gave the black racer only a passing glance. Compared to others in the record field of 154 the construction was crude. The racer's stubby nose, angular body and unfinished cockpit stamped it obviously as boy-built.

At the "Y" camp where the young drivers were quartered, not much more attention was paid the owner of the black racer. Pint-sized Joe Lunn of Thomasville, Georgia, was so shy that few of the camp counselors, after it was all over, could remember ever having seen him. His birthday of Feb. 3, 1941 made him at 11 youngest in the race.

When Joe squeezed his 87 pounds into his tiny car for his heat against the champions from Evansville and Bloomington, Ind. no one gave him a ghost of a chance. Even the ghost evaporated a minute or so later. Inexperienced Joe took his eye off the track's yellow guide line and straightened up after crossing the finish line with a comfortable lead. His car swerved and crashed into a retaining wall.

Joe went to the first aid station and his black racer made a sorry truckload back to the top of the hill. The body was broken and three wheels badly damaged. In the hospital Joe's chest and right arm were bandaged. The car presented more of a problem. One of the handlers got a cardboard box out of a garbage can and stuffed and taped it into the broken hood. Three new wheels were taken out of stock and, as every soap boxer knows, "green wheels" are no good. Drivers spin their wheels for hours on end to make sure bearings are well broken in. Derby-wise photographers didn't bother to take pictures. They saw Joe as a one-line "hard luck kid from Georgia" in the papers.

Tears of pain wetted Joe's face as he faced the flag in the next heat. In this one he took on the champs of Columbus, O. and Fort Wayne, Ind. His time down the 975-foot run was slower than his first run had been, but it was enough to get him in Round 3.

*(Continued on page 142)*

## JOE LUNN The Champ

A heart-warming story about a little guy from the hills who worked down-hill against big guys and bigger odds until he made himself World Champion



Joe accepts the winner's trophy from T. H. Keating, general manager of Chevrolet, donors of the trophy and a \$5,000 college scholarship. Mrs. Jewel Lunn, the champ's mother, is at the left.





# Servicing the

**T**HERE are two models of the British Hillman Minx, the sedan (shown above and the convertible coupe. These popular foreign cars are relatively small by our standards, with a wheel base of 93 inches and a dry weight of 1800 pounds (for the convertible). The engine is a four cylinder L-head with a maximum brake horsepower of 37.5 at 4200 rpm. The transmission has four forward speeds and one in reverse.

Service on the Hillman Minx is no more difficult than on the average American car. The Solex downdraft carburetor is very easy to clean and adjust. There are only two adjustments — the idle mixture (a knurled screw at the rear base of the assembly) and the idle speed adjustment screw which is at the right side of the carburetor on the throttle linkage. Turning the idle mixture screw counter-clockwise makes a richer mixture, and clockwise leaner. Turn the idle speed clockwise to increase, and counter-clockwise to decrease idle speed.

## Service Data

### Valve Timing

Intake: .010 inches  
Exhaust: .015 inches  
Set Timing: 7 deg. BTDC

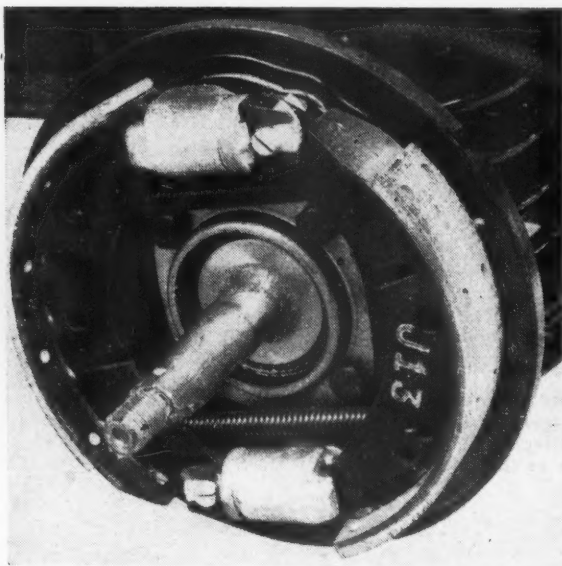
### Tune-Up

Spark Plug Gap: .030 inches  
Distributor Point Gap: .012 inches  
Compression Pressure: 118 to 124 psi  
Firing Order: 1-3-4-2

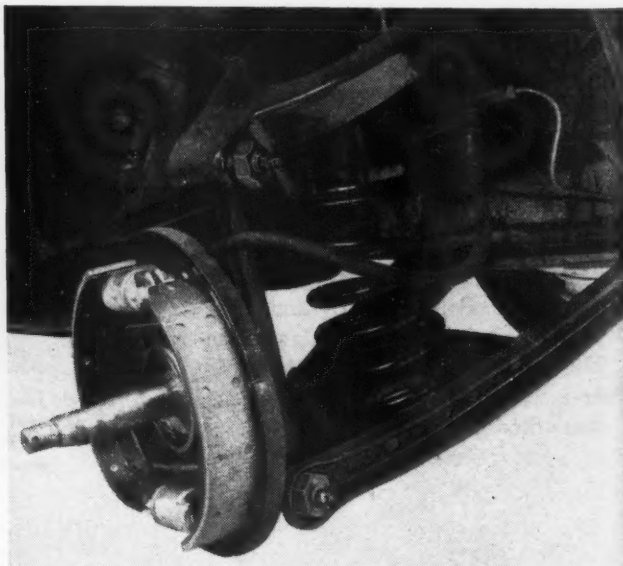
### Wheel Alignment

Toe-In:  $\frac{1}{8}$  inch  
Caster:  $3\frac{1}{2}$  degrees  
Camber:  $\frac{3}{4}$  degree plus-minus  $\frac{1}{4}$  deg.  
King pin inclination: 8 deg. 15 minutes

The front brake assembly. Notice the use of dual cylinders. Micram adjusters are at the left of lower cylinder, right of upper.



View of the right front independent suspension. Camber is adjusted by adding shims at the inner pivot of the upper control arm.



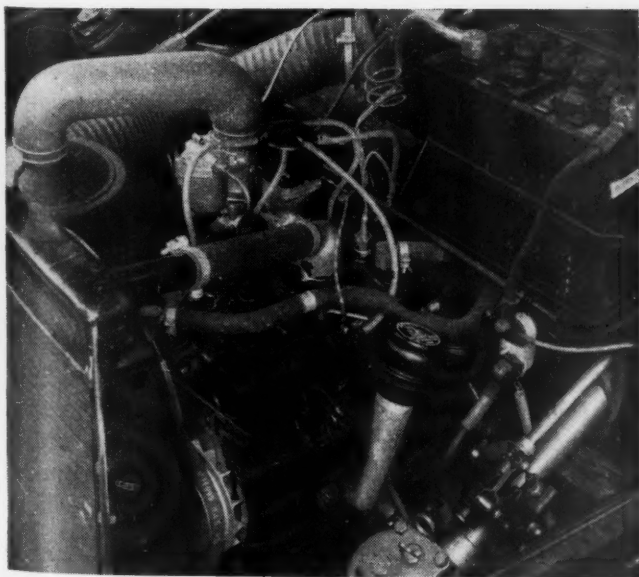
# Hillman Minx

The carburetor is designed so that many of the parts which might require cleaning are accessible without disassembly of the unit. The pilot jet, the starter fuel jet and the starter air jet (the latter two being part of the circuit which would correspond to a choke in other carburetors) are accessible from the exterior. The main jet is accessible from below the plug at the side of the carburetor and a drain plug is fitted on the float chamber so that any sediment can be drained away. This should be done at intervals of 6000 miles.

The Solex carburetor has, in effect, a separate portion for starting when the engine is warmed up and the choke control is pushed in, this portion of the carburetor is closed off. This arrangement known as the Bi-starter, gives a progressive control over the richness of the mixture while at the same time it is impossible for the carburetor to be so operated that the engine

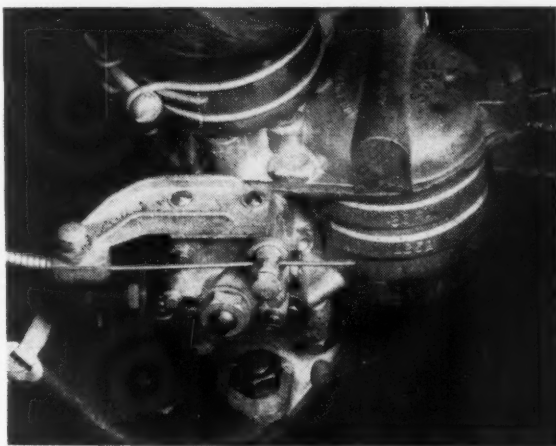
*(Continued on page 70)*

Compact and efficient, the 4-cylinder engine develops 37.5 hp at 4200 rpm. Note the large 12-volt battery and generator.



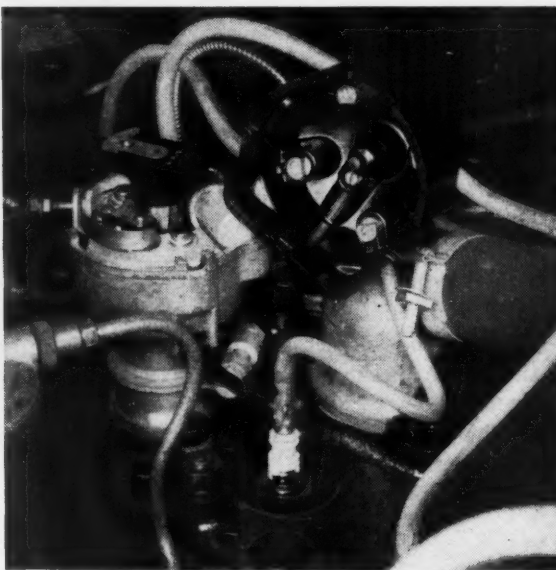
The "Minx" is another of the British cars which are becoming more popular over here. Service is easy, in most ways simpler than on many of our cars

by Arthur H. Nellen, Jr. Service Editor.



The Solex carburetor. Idle mixture and idle speed adjustments are made at the rear base of the unit.

View of the distributor with the cap removed. Service on this part is very similar to service on most domestic cars.



# Pop Hits a Miss

Mehitabel wanted to "hop around" while she was still able, but her car had a bad

FOR a moment Pop O'Neill looked up from the pile of bills on his desk. His gaze traveled to the office window and the gray September drizzle which was causing little ripples to trickle down the outside. Business was slow and traffic along the road was negligible. Suddenly a 1949 Ford Convertible whistled off the road and came to a cowboy stop in front of Pop's office door. Before Pop could get out of his chair to see what the customer wanted, Miss Mehitabel Francis had hopped lightly from behind the wheel, slammed the door with a mighty bang, skidded around the rear end of her Ford and was barging through the door.

"My goodness, Mehitabel!" Pop greeted. "In a hurry?"

"Certainly am!" snapped Mehitabel with a quick grin and a bird-like nod of her bonneted grey head. "Haven't enough years of life left to do all the things I want to do now, Pop. Have to hurry a bit."

"I suppose so," Pop concurred. "But it seems to me sometimes when us old folks go slower, we get more done. I like that hare and tortoise story better every year."

"Well," jerked Mehitabel, "I can't stop you being an old mud turtle if you want to. Me, I'd rather be a hare. Lots more fun hopping around a bit, while you can still hop." She nodded her head as in affirmation of her own wisdom. She changed the subject abruptly. "Say, where are those two mechanics of yours? Got a job for them."

"They're out in the back room," said Pop, "working."

by Charles M. Kenyon  
*Managing Editor*

"Hm," said Mehitabel, "that's more than that Larry Tait did when I had him in school. Now Tommy, he's made of cloth of a different stripe. A little get up and get to

him. He should go places!" She nodded her head again.

"Their methods of working are a little different, Mehitabel," Pop explained. "But each one in his own way is pretty good. They do a good day's work for their wages. Probably because of their early instruction." He grinned.

"Probably!" Mehitabel, snorted. "Unquestionably! But their natural lazy natures need a touch of the whip once in awhile. All men do. Why I wager right now that they're just laying down out there, having a good snooze on the workbench."

Pop laughed good humoredly. "Not those boys. I suspect they're taking the transmission out of a 1941 Nash."

Mehitabel craned her long skinny neck to see through the door. "Hm," she said smugly. "Take a look. That's not the way I'd take the transmission out of any old car."

Pop looked through the office door toward the back room too, just in time to see Larry and Tommy anxiously awaiting the return of a coin flipped high in the air.

"Well I'll be darned," he said. "I wonder what they're up to ?. Let's go find out."

"Hm," snorted Mehitabel. "Looks pretty simple to me. Guess we've got you with the goods this time. Running a gambling joint in the back room." Her face broke into a smile as she glanced around. "Pop O'Neill's Famous Gambling Em-





Pop O'Neill

miss which cramped her style

porium. Sure doesn't look like a gambling palace does it?"

"Nope," Pop replied. "It's an eminence to which I did not ever intend to accede. Let's have it out with the croupiers. Besides you can tell them what needs doing with that piece of dependable transportation which you try to make perform like a racer."

"Nonsense," said Mehitabel primly, patting her bonnet firmly upon her gray hair. "Us hares just naturally have to move faster than you mud turtle folk, Mr. O'Neill."

They entered the back room together and almost bumped into Tommy. "Hey boy, what's the hurry," said Pop. "Running out before the law gets in here?"

"How do you do, Miss Francis," said Tommy. "Hello, Pop," he grimaced. "I lost the toss so I have to go out in the rain to get the coffee this morning, over at the diner."

"Whose two-headed nickel did you use? Larry's?" asked Pop dryly. "Go ahead boy, hustle up."

"Things are pretty slack this morning," he explained apologetically to Mehitabel.

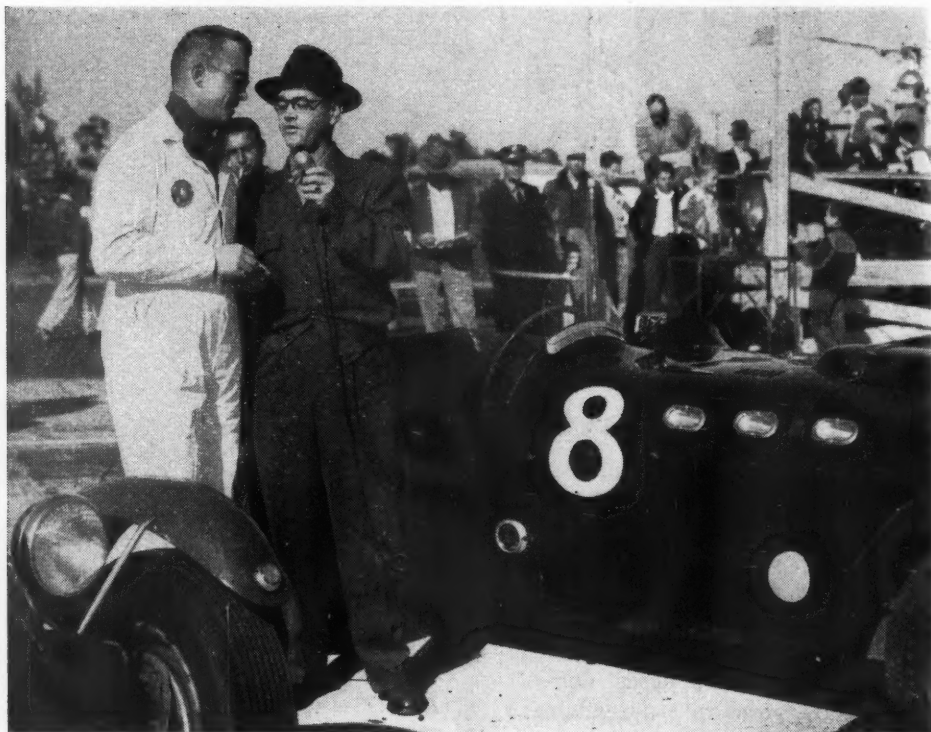
"So I see. Well here's some business for you," replied Mehitabel.

Larry had joined them by now and Mehitabel with much vigor and many graphic gestures explained

(Continued on page 76)



Pop saw Larry and Tommy anxiously awaiting the return of a coin, flipped high in the air.



The author, currently President of the Sports Car Club of America, speaks to a radio audience at the Sebring International Grand Prix, held in Florida.

# The Hot Rod and Sports Car Business

Cars driven purely for the sport involved can be a source of great

**Y**OUR volume CAN be increased and your operation CAN be made more profitable by engaging in one or more of the many phases of the so-called hot-rod engine-rebuilding business. I have been closely associated with certain phases of the racing game for the past several years and have watched closely and with intense interest what I believe to be

the fastest growing sport and hobby in America since baseball.

Let me emphasize right at the beginning that you should not make the mistake of thinking that hot rodders are all juvenile delinquents or thrill-crazy high school kids. Unbridled and uncontrolled hot rod activities have caused criticism of this sort in some localities in the



The spectacular stock car races are only one of many forms of sports car contests. The jalopy look of the cars belies the fine mechanical condition they are actually in.

Ted William's own custom job is a good example of another type of sports car—one on which much thought and skill is expended, and much money.



profit to the well-equipped jobber or repair shop

by Fred Wacker, Jr.  
President, Ammco Tools, Inc.

past. Things are better organized now—many of the hot-rod clubs are working in close conjunction with the police and civic groups so that their competitive activities may be carried on in an organized safe way, and not in every-

day traffic where hazard is unavoidable.

First, a general outline of what we shall call auto enthusiasm of a specialized or other than strictly business or utility, type in America. We are talking in short, about the forms of automotive means of transportation—where it becomes, if you will, any or all of the following: an engineering laboratory on wheels, an instrument of special use and sport, an outlet for the mechanically frustrated, or a means of expression for the chronic tinkerers.

There are several areas of activity in which these auto enthusiasts operate. Probably the best known to you is the midget and big race cars on ovals throughout the country by professional drivers and controlled by the Automobile Association of America. The people engaged in this profession are relatively small in number, are extreme specialists and confine themselves almost exclusively to one engine (the Meyer-Drake). They do most of their own mechanical work.

There is another new and very rapidly growing organization, the National Association of Stock Car Auto Racers—or NASCAR. This group sponsors professional stock car races on oval tracks throughout the United States and are now branching out into "racing car races" using modified American stock car engines such as Cadillac, Ford, and Chrysler in actual track race cars as opposed to the use of this engine in hot rods.

A third category of automotive activity is represented by the Sports Car Club of America of which I am President. This is again a national group, but one which sponsors amateur road races on diverse road circuits on which public traffic is not permitted during the races. The road-racers are of widely divergent character, including everything from the finest foreign cars

(Continued on page 122)

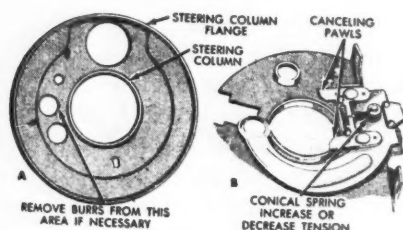




## Ford Turn Signal Indicator Repair

On 1952 Ford passenger cars, should the turn signal indicator not return to the "off" position, the trouble may be diagnosed by the following procedure. With the wheels in straight ahead position, actuate the turn signal lever and turn the wheel back and forth. If no clicking sound or lever movement can be detected, the difficulty may be caused by the canceling cam not engaging the canceling pawls.

Check the clearance between the steering wheel hub and the steering column flange. This distance should not be more than 1/16 of one inch, for the canceling cam on the steering wheel to make positive contact with the canceling pawls on the switch. If the clearance is excessive, shift the steering shaft housing toward the wheel hub so that the clearance is decreased to approximately 1/16 of an inch. The steering shaft housing may be moved by loosening the steering column to instrument panel bracket and the lower steering column bracket inside the engine compartment.



If, however, a clicking sound is detected when the wheel is turned, and the lever still will not

cancel, the difficulty may be caused by burrs around the turn indicator handle shaft hole inside the steering column flange. To correct this difficulty it will be necessary to hold the steering wheel and remove the turn signal switch plate, which is held in place by two screws. De-burring of the turn indicator handle shaft hole should correct the difficulty in most cases. Do not enlarge or chamfer the hole. If this does not accurately correct the difficulty, the indicator may not be able to return due to excessive switch hold down spring pressure. Remove the horseshoe-shaped retainer and adjust the spring.

## Removal of Chevrolet Door Check Link Support

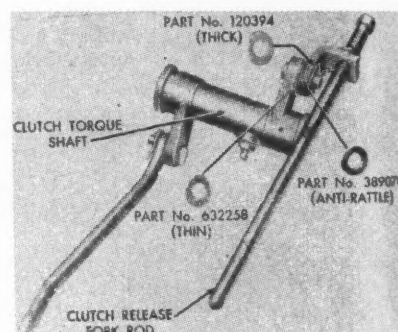
On 1949 to 1952 Chevrolet passenger car models, when replacing either the front or rear, a great deal of time can be saved by using the following procedure which eliminates removal of the door trim pad and loading hole cover:

1) Remove the cowl kick pad (on rear doors, loosen the lower center puller trim). 2) Remove the check link strap attaching bolt and remove the check link strap. While the check link strap is off, be careful not to open the door too far as it can cause damage to the outer panel against the front fender. 3) Remove the two check link support attaching screws. To avoid allowing the check link support to fall into the door while the screws are being removed, insert a hooked wire around the support roller. 4) now remove the check link support by turning it and

bringing it out of the door cut-out. 5) Installation is reverse of the above procedure.

## Eliminating Clutch Linkage Noise on Plymouth

Loose clutch linkage may result in a noise which is sometimes incorrectly traced to the clutch disc



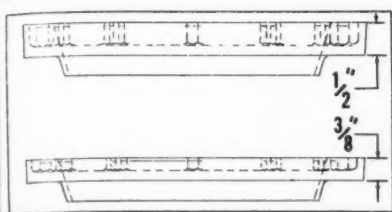
or transmission. This loose linkage causes a knock or rattling noise when accelerating, and a buzzing sound when decelerating from about 45 to 35. An anti-rattle spring washer can be installed along with thick and thin plain washers as shown in the illustration to correct this condition. The number of plain washers necessary to provide sufficient tension on the anti-rattle washer may vary.

It is a good idea to always check the installation on these washers before doing any major repairs on the transmission or clutch.

## Regulator Gasket For Hudson Hydramatic

The pressure regulator plug gasket used on 1952 Hydramatic transmissions can be installed backwards. The result may be very high main line pressure due

to a damaged gasket. To eliminate any chance of this occurring, a gasket should always be assem-



bled to the pressure regulator plug with the seam side toward the threaded end of the plug.

## Front Suspension Modification on 1949 Ford

In order to provide an additional 1/4-degree camber adjustment on 1949 Ford passenger car, the spindle support upper bushing has been revised. This replacement bushing, which became partially effected in production approximately May 15th, 1952, is available in the front suspension upper spindle support kit, which can be obtained from the dealers. The bushing cannot be visually distinguished from the old bushing and the part number was not changed but it may be used for replacements on all 1949 to 1952 cars.

## Front Coil Spring to Frame Spacers on Hudson

Two new spacers of installation above the coil springs between the silencer and the frame spring seat are now available for use on Hudsons, from 1940 to 1952. These are used to raise the front end or one side of the car. They are available in 3/8 and 1/2 inch thicknesses and must be used in conjunction with the new front suspension steering spindle lower support arm brace bumper and spacer. When one 3/8 inch spacer is used, above a spring, the standard product of the front suspension steering spindle lower support arm brace bumper should be used. When one 1/2 inch spacer or two 3/8 inch spacers are used, two bumpers of proper dimensions which can be obtained from the dealer, must be installed.

## Removing Steering Wheels on Chevrolets

Sometimes steering gear worm bearing races become brinelled

and sometimes the steering gear worm shaft is driven through the worm, making the steering gear adjustment impossible. Investigation of these reports has shown that the conditions were probably the result of improper removal of the steering wheel either during a steering gear overhaul operation or to permit installation of accessory wheels.

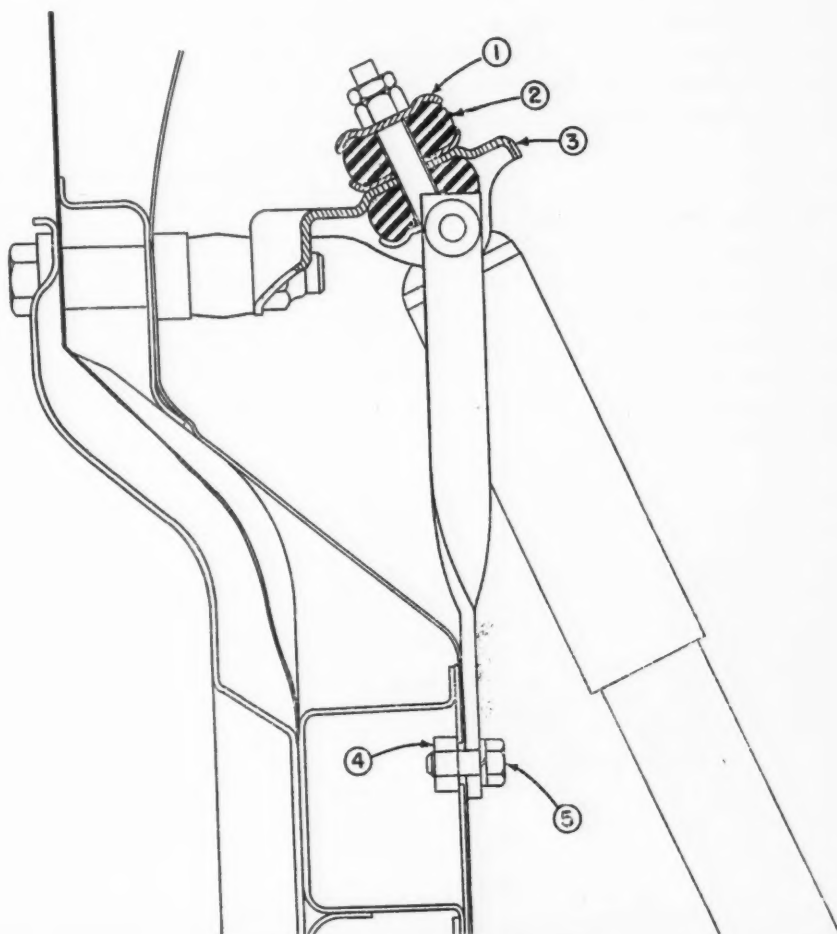
Whenever a steering wheel is removed by either a passenger car or truck, a proper steering wheel puller should be used to prevent damage to the gear assembly. Do not drive on the end of the steering gear worm shaft to jar the steering wheel loose.

## Shock Absorber Mounting On 1952 Nash Rambler

The front shock absorber mounting has been re-designed and now utilizes a "bayonet type" of shock absorber upper mounting. The upper mounting bracket which was formerly welded to the control arm pivot bar has been eliminated. The mounting bracket

is now attached by the upper control arm pivot bar bolts. Two clinch nuts have been added to the side sill reinforcements to attach the lower end of the mounting bracket. The shock absorber support bracket rod has been eliminated, therefore, as well as the "wells" and holes in the wheel house panels. The illustration shows the front suspension upper shock absorber mounting. The parts indicated are as follows: (1) shock absorber grommet retainer (2) shock absorber grommet (3) shock absorber upper mounting bracket (4) shock absorber bracket brace screw clinch nut (5) shock absorber bracket brace screw.

The rear shock mounting has also been revised to eliminate the shock absorber housing (towers). The new rear upper mounting is of the "bayonet type" and the lower mounting is the "eye" type. The rear upper mounting is accessible by removing the two access holes covers and gaskets in the rear floor panel.



Nash Shock Absorber Mounting



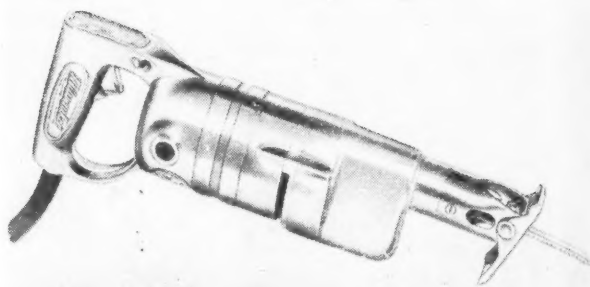
# NEW

# PRODUCTS

FOR FURTHER INFORMATION USE POSTCARD

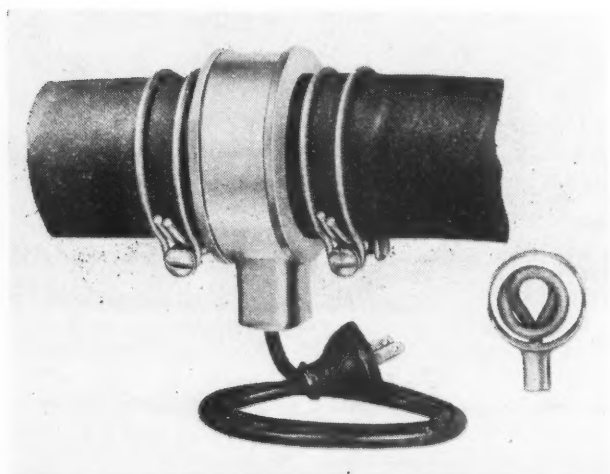
## ► 371. Portable Power Saw

**Milwaukee Electric Tool Corp.:** The Milwaukee Sawzall is not an attachment, but a self-contained, portable power saw, designed particularly for heavy duty service of the type that would be encountered in automotive repair work. It has a  $\frac{3}{4}$ -inch stroke, and operate at 2250 strokes per minute. It cuts through sheet metal, wire, nails, and numerous other materials. The complete unit is  $14\frac{1}{2}$  inches long and weighs  $6\frac{3}{4}$  pounds.



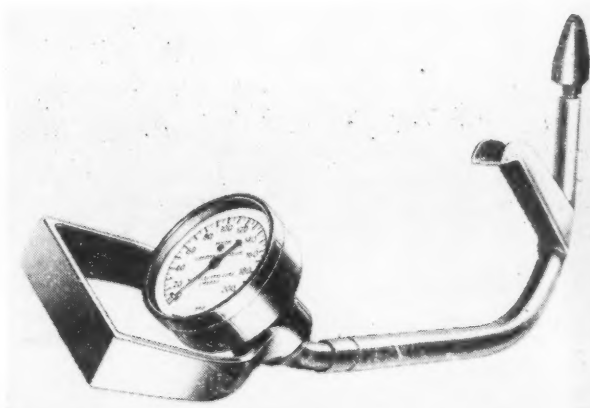
## ▼ 372. Engine Heater

**Santay Corporation:** The "Hot-Blok" engine heater is installed in the lower radiator hose and never has to be removed. A permanently attached cord is covered by neoprene rubber. The unit is made of polished brass, is waterproof, moisture-proof, and fireproof and is said to fit most cars including Chevrolets.



## ▼ 373. Compression Tester

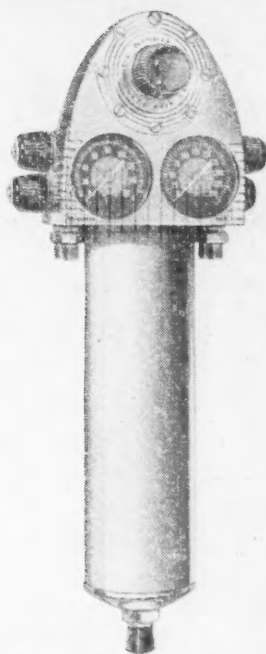
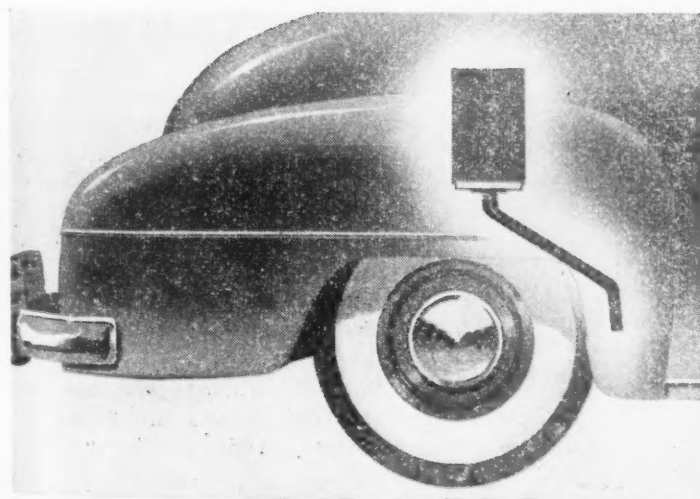
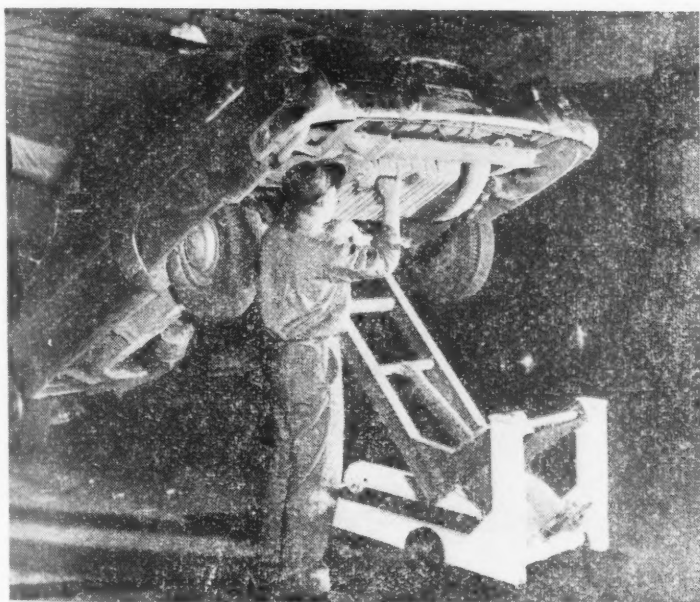
**Sun Electric Corporation:** Compression testing of the new V-8 engines installed in recent Ford F-7 and F-8 trucks and Lincoln automobiles, is facilitated by the Sun Tester. This tool has a lever-like projection designed for this job. The valve and cone assembly are fitted securely into the spark plug hole by hooking the lever under the manifold and pulling the tester handle.





# SHOW WINDOW

FACING NEXT PAGE 



## ▲374. Air Transformer

**DeVilbiss Company:** The HLD Air Transformer has a built-in two-stage regulating principle designed to provide for easier adjustment of pressures, requiring only finger tip control of the adjusting knob. The knob actuates a small pilot regulator which in turn operates the diaphragm of the large regulator. Oil and moisture is eliminated by the transformer, which traps the liquids and delivers clean air to all outlets. The unit has two regulating outlets and two unregulated.

## ◀375. One-End Lift

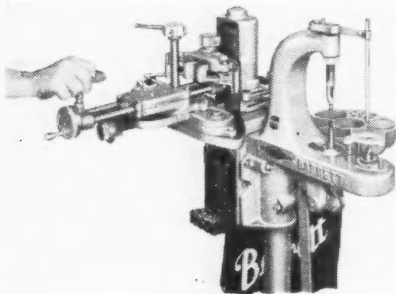
**Homestead Valve Mfg. Company:** An air-operated one-end lift for automobiles or trucks, known as the Homestead Hoister, has been announced by this firm. It is made in two models, Model 3 with 3000 pounds lifting capacity for cars and Model 5 with 5500 pounds capacity for trucks. It is recommended for all under chassis repairs, muffler and tail pipe repairs, undercoating, steel plating, body, fender and brake work, front end repairs, etc. The hoister is fully portable.

## ◀376. Road Sander

**Connecticut Telephone & Electric Corp.:** The De-Skiddor road sander permits the motorist to "lay down his own sand track" as he rides. The driver touches the foot control button, and dry sand or grit is released ahead of each rear tire, providing instant traction. It is designed to fit any 1947 to 1952 model car and is entirely mechanical. The foot control button is connected to the non-clog valves in bottom of the two sand hoppers.

## 377. Reliner-Grinder

**Barrett Equipment Co.:** A reliner-grinder unit designed for complete servicing of 8-inch to 16-inch steel brake shoes, is said to de-rivet, drill, countersink, rivet



and radius-grind. Advantages claimed by the manufacturer are lower equipment cost with one machine taking the place of separate reliner and grinder units; a saving in time and labor as six essential operations can be performed from one operating position; and a reduction in shop space required. The shoe clamp on the radius grinding unit handles all shoes in range with no change of adapters. The manufacturer states that the high speed grinder profits eight shoes to any predetermined drum size in less than four minutes. A dust bag is attached to the built-in suction fan, providing safe, clean working conditions for the operator.

## 378. Ignition Timer

**E. Edelmann & Company:** The T-131 "Powerhouse" ignition timer has been designed for quick, "plug-in" replacement by the user of those elements which most commonly need repair. Replacement units to take care of most repair requirements are readily available. Operating directly from the car's battery, this device can be used for timing, adjusting, and synchronizing various parts of the engine action. The Powerhouse features a concentrated light beam which is produced by means of a built-in-power amplifier intensified and projected through a radio-type "flash tube" equipped with a special precision ground magnifying lens. The replaceable flash tube is enclosed in a protective rubber

housing of flashlight design. The entire "Powerhouse" unit, consisting of flash tube, replaceable vibrator, and power amplifier system is mounted in a heavy gage steel carrying case.

## 379. Acetylene Torch

**Velocity Power Tool Company:** An automatic acetylene-air torch, known as the "Torch-O-Matic" lights at the squeeze of a trigger and shuts off upon release. It is said to eliminate relighting, manual valve adjustment, pumping or priming, and warm-up. It is said to be well suited for intermittent "on-again, off-again" work. Squeezing the spring loaded trigger simultaneously opens the gas torch valve and sparks the heavy duty flint for ignition. The trigger can also be locked open for continuous flame. The Torch-O-Matic weighs 12 ounces and provides up to 2800 degrees.

## 380. Transmission Filler

**K-P Manufacturing Company:** The E-Z Trans-Fill automatic transmission filler is a completely portable unit designed for transmission changes on Hydra-Matics, Dynaflo's, Powerglides, Fordomatics, Merc-O-Matics, Ultramatics, and Fluid Drive cars. The unit consists of a 5-gallon container which is equipped with a 6-foot transparent hose with a check



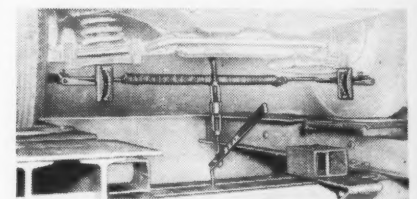
valve to prevent dripping. The pumping volume is automatically set at 1 quart per stroke and is calibrated for pints. Clean fluid is assured by a sealed can spout and a filter screen in the hose end of the coupling which can be cleaned or replaced.

## 381. Oil Filter Package

**Fram Corporation:** A new Chevrolet oil filter package is now available. It is said to need only one fitting to install, and has no interference from moving parts. The manufacturer states that it is tailor-made for Chevrolets, requiring between 12 and 15 minutes for a complete installation.

## 382. Toe-Change Indicator

**Bear Mfg. Company:** The new Bear toe-change indicator absorbs the parallel in and out motion of front wheels as the front assembly



moves up and down and consequently allows the operator to adjust toe-angles under load and driving conditions while the car is on the alignment rack. It detects toe-angle change individually for each wheel.

## 383. New Adhesive Line

**The Carborundum Company:** A new line of seven adhesives and sealers is now available through automotive jobbers from the Carborundum Company. The seven products are: (1) Red-I-Stick weatherstrip adhesive (2) Red-I-Trim cement (3) Red-I-Caulk caulking putty (4) Red-I-Seal auto glass sealer (5) Red-I-Cling auto-body deadener (6) Red-I-Metal autobody solder and (7) Red-I-Solvent (a solvent for Red-I-Metal). The manufacturer states that Red-I-Stik Weatherstrip Adhesive can fill all the requirements in the average body shop installing and repairing all types of weatherstrip, trunk linings, felt pads, and in making repairs in upholstery, replacing header cloth and side panels.

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384. Screwdrivers

The J. H. Williams & Co.: An assortment of eight screwdrivers with special tip designed for servicing No. 2 through 14, 1/4, 5/16, and 3/8 clutch head screws has been added to the J. H. Williams & Company line. The blades are round, made of selected alloy steel and hardened and tempered. They are anchored in transparent composition handles which act as an insulator.

385. Jack Catalog

Auto Specialties Mfg. Co.: A new, four-page catalog of Ausco

hydraulic and mechanical jacks has just been published. Twenty-seven different models are illustrated and applicable specifications given. The catalog is said to offer simplified, yet complete listing of all types of jacks listed in the automotive and industrial business, to assist the trade in both buying and selling operations.

386. Cleaning Booklet

Kelite Products, Inc.: "Simplified Cleaning for the Automotive Industry" is the title of an illustrated brochure just published by

this firm. It explains how virtually all cleaning jobs can be facilitated through the application of compounds utilizing the principle of Kelite Control, the manufacturer states. It gives a number of examples, including overhaul, maintenance and miscellaneous cleaning.

387. Pneumatic Tools

Independent Pneumatic Tool Co.: A completely new line of lightweight Thor pneumatic drills, screwdrivers, nut setters and grinders has been announced. With 85 different individual sizes

More Info

on new products in this issue which are of special interest to you can be obtained by using the free post card at the right. Fill in your name, address and other information and circle the numbers of the new products which interest you. Tear out the card and drop it in the mail.

Here's How

you can pass your thoughts on Motor Age to its editors. Just write down the titles of the features you like best in this issue in the order of your preference. Then, in the next spaces, write in your ideas on making Motor Age more useful to you.

Frank P. Tighe, EDITOR MOTOR AGE  
Chestnut & 56th Sts., Philadelphia 39, Pa.  
9/52  
Please send me further information on the New Products, the code number of which I have circled below.  
371. Power Saw  
372. Engine Heater  
373. Compression Tester  
374. Air Line Regulator  
375. One End Lift  
376. Road Sander  
377. Reliner-Grinder  
378. Ignition Timer  
379. Acetylene Torch  
380. Transmission Filler  
381. Oil Filter Package  
382. Toe-Change Gage  
383. Adhesive Line  
384. Screwdrivers  
385. Jack Catalog  
386. Cleaning Booklet  
387. Pneumatic Tools  
388. Inspection Method  
389. Custom Muffler  
390. Block Sealer  
391. Wiper Regulator  
392. Chrome Cleaner  
393. Electronic Tool  
394. Paste Rubber  
395. Headlight Control  
396. Water Repellant  
397. Soldering Set  
398. Tappet Tool  
399. Radiator Cleaner  
400. Parts Cleaner  
401. Wrecker  
402. Hose Clamps  
403. Tail Pipe  
404. Caster Compensator  
405. Plug Gapping Tool  
406. Replacement Choke  
407. Lube Gun  
408. Service Organizer  
409. Welding Accessory  
410. Masking Tape  
411. Bumper Jack  
Your Name ..... Your Title .....  
Your Company .....  
Jobber ..... Independent ..... Dealer .....  
Address ..... (Street & No.) ..... (City) ..... (Zone) ..... (State) .....

Frank P. Tighe, EDITOR MOTOR AGE  
Chestnut & 56th Sts., Philadelphia 39, Pa.  
9/52  
We liked the following features in this issue of Motor Age:  
1. ....  
2. ....  
3. ....  
Here's how Motor Age can be more helpful to us:  
.....  
.....  
.....  
Your Name ..... Your Title .....  
Your Company .....  
Jobber ..... Independent ..... Dealer .....  
Address ..... (Street & No.) ..... (City) ..... (Zone) ..... (State) .....

## New Products . . . . . Continued from Page 53

a 1 pound, 1 oz. grinder to a 2 pound, 11 oz. screwdriver, the new Thor No 2 class tools feature interchangeability of housings, handles and attachments. In addition to parts standardization for ready assembly, the line features a new rotary air motor.

### 388. Inspection Method

**Turco Products, Inc:** A new high speed dye penetrant inspec-

tion process, has been formulated to find defects in metal parts. Known as "Turco Chek-Spek," this product is said to be non-inflammable. When used in conjunction with a vapor degreaser, it has only two materials, the penetrant and the developer. After the part has been cleaned the penetrant is applied to the area being inspected and then the surface dye is removed by suspending the

parts momentarily in the vapor zone of a degreaser. Then the developer is sprayed onto the parts being inspected. Developer pulls out the dye which has remained in the existing flaws. As the white developer dries, the red dye bleeds into it, locating and defining the extent of the existing flaws.

### 389. Custom Muffler

**Maremont Automotive Products, Inc:** An all steel custom type straight through muffler has been announced by Maremont. Called "Hollywood Type," this muffler is available for all popular makes of cars. It is designed to produce decreased engine back pressure and a pleasing deep tone, without an objectionable common roar.

### 390. Block and Head Sealer

**The Permatex Company:** A new product called "Block and Head Sealer" has been announced by Permatex and will replace the Form-A-Weld in their line. Block and Head Sealer is a liquid internal engine repair material which is designed to permanently seal inside cylinder cracks, split valve ports and cracks in water jacket and cylinder heads. It is poured into the water inlet on top of the cylinder head.

### 391. Wiper Regulator

**The Anderson Company:** The AVR Automatic Vacuum Wiper Motor Regulator allows control of maximum wiper speed to increase blade life and improve wiper performance. The manufacturer states that it eliminates racing of the motor and boosts its performance as the vacuum decreases under acceleration. Also, it prevents destructive blade "whip" at the end of the stroke. It is installed in the vacuum line to the motor and, once adjusted, needs no further attention.

### 392. Chrome Cleaner

**The Arco Company:** A new chrome and metal cleaner developed and packaged specifically for the automotive body shop has been announced. It is bulk packaged in

(Continued on page 145)

FIRST CLASS  
PERMIT No. 18  
Sec. 34.9, P. L. & R.  
Philadelphia 39, Pa.

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## Hard Brake Pedal on Two Chevrolet Cars

*We have two Chevrolets with hard brakes. When you push the brake down, it goes down about 1 in. and then it feels like you are hitting a board. One car was re-lined and it was all right, but just for about a month before it got this hard brake. On the other car so far we have changed the master cylinder, installed new rear wheel cylinders and checked the master cylinders to see if they were working and also took the glaze from all the brake lining and brake drums. Both of them have a good pedal. There is no air in the lines and they have been adjusted a couple of times so we know the adjustments is all right. We also had the drums checked to see if they were out-of-bound. We checked the rear springs and the backing plate to see if they were loose but with no results. Can you give me the answer to this problem?*

*Edward McMahon  
Speedway Service Station  
Bayonne, N. J.*

**F**IRST of all I would make sure the master cylinder pedal adjustment is correct. As you know this should have only  $\frac{1}{8}$  in. free play between the end of the rod and the master cylinder piston. Then I would suggest that you try a different type lining. As you know, some linings give you a harder pedal than others. I would also suggest that you replace all the brake hoses as there is a possibility these hoses may be clogged at times.

## Valve Trouble On a 6 Cylinder Ford Engine

*We have a 1942 6-cylinder Ford that is giving us a lot of trouble with the valves. It will not run more than 3000 miles between valve jobs. We have seated and resealed the valve seats, refaced the valves, ground the valves in by hand to be sure they were seating properly. We have installed a new carburetor, rebored the block, installed a new timing gear, put on a new distributor and timed and retimed it. Also put on a new distributor cap and new distributor wires. Installed a*

*(Continued on page 117)*

# READERS CLEARING HOUSE



by Jack Montgomery, Technical Editor

## TROUBLE SHOOTING PROBLEMS

- Hard Brake Pedal on Chevrolets
- Valve trouble on Ford 6
- More Info on Idle Speed Knock
- Rapid Wear on Rear Brake Shoes
- Data on 1933 Pierce-Arrow



## Current Passenger Car Price, Weight and Body Table

**Following are prices at factory for cars with standard equipment as of August 25, 1952. State or local taxes, transportation and finance charges and optional equipment are extra.**

| BODY MAKE AND MODEL | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory including Federal Taxes | Shipping Weight | BODY MAKE AND MODEL | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory including Federal Taxes | Shipping Weight | BODY MAKE AND MODEL | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory including Federal Taxes | Shipping Weight | BODY MAKE AND MODEL  | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory including Federal Taxes | Shipping Weight |  |  |
|---------------------|---|------------------------------------|--|-----------------|---------------------|---|------------------------------------|--|-----------------|---------------------|---|------------------------------------|--|-----------------|----------------------|---|------------------------------------|--|-----------------|--|--|
| BUICK               |   |                                    |  |                 | DE SOTO†            |   |                                    |  |                 | HUDSON (Continued)  |   |                                    |  |                 | PACKARD              |   |                                    |  |                 |  |  |
| Special 40          |   |                                    |  |                 | DeLuxe              |   |                                    |  |                 | Hornet 6            |   |                                    |  |                 | 200                  |   |                                    |  |                 |  |  |
| Bus. Coupe.....     | 1864  | 176                                | 2040   |                 | Club Coupe.....     | 2137  | 166                                | 2303   | 3435            | Club Coupe.....     | 2485  | 238                                | 2723   | 3550            | Club Sedan, 2d.....  | 2278  | 207                                | 2475   | 3640            |  |  |
| Sport Cpe., 2d....  | 1918  | 181                                | 2099   | 3605            | Sedan, 4d, 6p.....  | 2149  | 167                                | 2316   | 3540            | Sedan, 4d.....      | 2510  | 239                                | 2749   | 3600            | Tour. Sedan, 4d..... | 2327  | 191                                | 2528   | 3680            |  |  |
| Sedan, 2d.....      | 1951  | 183                                | 2134   |                 | Carry All.....      | 2370  | 184                                | 2554   | 3650            | Hollywood.....      | 2809  | 262                                | 3071   | 3630            | 200 DeL.....         | 2314  | 208                                | 2622   | 3660            |  |  |
| Sedan, DeL., 2d..   | 1994  | 187                                | 2181   | 3620            | Sedan, 4d, 8p.....  | 2696  | 224                                | 3120   | 4035            | Conv. Brghm.....    | 3038  | 280                                | 3318   | 3750            | Club Sedan, 2d.....  | 2484  | 211                                | 2675   | 3685            |  |  |
| Sedan, 4d.....      | 2005  | 189                                | 2193   |                 | Custom.....         |   |                                    |  |                 | Commodore 8.....    |   |                                    |  |                 | Tour. Sedan, 4d..... |   |                                    |  |                 |  |  |
| Sedan, DeL., 4d..   | 2048  | 191                                | 2239   | 3685            | Club Coupe.....     | 2333  | 181                                | 2514   | 3565            | Club Coupe.....     | 2485  | 238                                | 2723   | 3580            | 250.....             |   |                                    |  |                 |  |  |
| Rivra. Cpe., 2d...  | 2086  | 193                                | 2279   | 3685            | Sedan, 4d, 6p.....  | 2352  | 183                                | 2535   | 3660            | Sedan, 4d.....      | 2510  | 239                                | 2749   | 3630            | Mayfair Cpe.....     | 3028  | 265                                | 3293   | 3805            |  |  |
| Conv. Cpe., 2d...   | 2399  | 216                                | 2615   | 3650            | Sportsman.....      | 2564  | 206                                | 2870   | 3720            | Hollywood.....      | 2809  | 262                                | 3071   | 3660            | Conv. Coupe.....     | 3174  | 276                                | 3450   | 4000            |  |  |
| Super 50.....       |   |                                    |  |                 | Conv. Coupe.....    | 2761  | 215                                | 2976   | 3865            | Conv. Brghm.....    | 3038  | 280                                | 3318   | 3770            | Tour. Sedan, 4d..... | 2843  | 251                                | 3094   | 3880            |  |  |
| Rivra. Cpe., 2d...  | 2244  | 216                                | 2460   | 3775            | Stat. Wagon.....    | 2940  | 228                                | 3168   | 4020            |                     |   |                                    |  |                 | 400.....             |   |                                    |  |                 |  |  |
| Sed. Rivra., 4d...  | 2323  | 222                                | 2545   | 3825            | Sedan, 4d, 6p.....  | 3099  | 240                                | 3339   | 4155            |                     |   |                                    |  |                 | Tour. Sedan, 4d..... | 3466  | 301                                | 3767   | 4100            |  |  |
| Conv. Cpe., 2d...   | 2605  | 243                                | 2848   | 3970            | Suburban.....       | 3442  | 266                                | 3708   | 4370            |                     |   |                                    |  |                 |                      |   |                                    |  |                 |  |  |
| Est. Wagon, 4d...   | 3000  | 272                                | 3272   | 4105            | Fire Dome 8.....    |   |                                    |  |                 |                     |   |                                    |  |                 |                      |   |                                    |  |                 |  |  |
| R'dmaster 70.....   |   |                                    |  |                 | Club Coupe.....     | 25'5  | 195                                | 2700   | 3675            | KAISER VIRGINIAN    |   |                                    |  |                 |                      |   |                                    |  |                 |  |  |
| Rivra. Sed., 4d...  | 2899  | 279                                | 3178   | 4285            | Sedan, 4d, 6p.....  | 2525  | 193                                | 2721   | 3760            | De Luxe.....        |   |                                    |  |                 |                      |   |                                    |  |                 |  |  |
| Rivra. Cpe., 2d...  | 2995  | 287                                | 3282   | 4235            | Sedan, 2d.....      | 2837  | 220                                | 3057   | 3850            | Bus. Coupe.....     | 2099  |                                    |  |                 |                      |   |                                    |  |                 |  |  |
| Conv. Cpe., 2d...   | 3130  | 298                                | 3428   | 4395            | Conv. Coupe.....    | 2934  | 227                                | 3161   | 3950            | Club Coupe.....     | 2252  |                                    |  |                 |                      |   |                                    |  |                 |  |  |
| Est. Wagon, 4d...   | 3616  | 333                                | 3949   | 4505            | Stat. Wagon.....    | 3113  | 241                                | 3354   | 4080            | Sedan, 2d.....      | 2273  |                                    |  | 3145            |                      |   |                                    |  |                 |  |  |
|                     |   |                                    |  |                 | Sedan 8p.....       |   |                                    | 4325   |                 | Sedan, 4d.....      | 2233  |                                    |  | 3195            | PLYMOUTH†            |   |                                    |  |                 |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Traveler, 2d.....   | 2372  |                                    |  |                 | Concord.....         |   |                                    |  |                 |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Traveler, 4d.....   | 2420  |                                    |  |                 | Coupe, 3p.....       | 1480  | 121                                | 1601   | 2893            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Manhattan.....      |   |                                    |  |                 | Sedan, 2d.....       | 1612  | 130                                | 1742   | 2959            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Bus. Coupe.....     | 2273  |                                    |  |                 | Suburban.....        | 1999  | 161                                | 2150   | 3145            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Sedan, 2d.....      | 2381  |                                    |  | 3185            | Savoy.....           | 2103  | 170                                | 2273   | 3165            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Club Coupe.....     | 2400  |                                    |  | 3220            | Cambridge.....       |   |                                    |  |                 |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Sedan, 4d.....      | 2430  |                                    |  |                 | Club Coupe.....      | 1640  | 134                                | 1774   | 3030            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Traveler, 2d.....   | 2479  |                                    |  |                 | Sedan, 4d.....       | 1675  | 138                                | 1811   | 3068            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 | Traveler, 4d.....   | 2528  |                                    |  |                 | Cranbrook.....       |   |                                    |  |                 |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 |                     |   |                                    |  |                 | Club Coupe.....      | 1731  | 139                                | 1870   | 3046            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 |                     |   |                                    |  |                 | Sedan, 4d.....       | 1760  | 141                                | 1901   | 3088            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 |                     |   |                                    |  |                 | Belvedere.....       | 2039  | 162                                | 2201   | 3105            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 |                     |   |                                    |  |                 | Conv. Cpe.....       | 2143  | 170                                | 23.3   | 3258            |  |  |
|                     |   |                                    |  |                 |                     |   |                                    |  |                 |                     |   |                                    |  |                 |                      |   |                                    |  |                 |  |  |
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|                     |   |                                    |  |                 |                     |   |                                    |  |                 |                     |   |                                    |  |                 |                      |   |                                    |  |                 |  |  |

† Prices do not include delivery and handling charges.



ROUNDING OUT THE GREAT CENTURY OF TRANSITION

FROM WAGON WHEELS TO AUTOMOBILES



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this year

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of Engineering*

ONE HUNDRED YEARS OF PROGRESS THROUGH FREEDOM

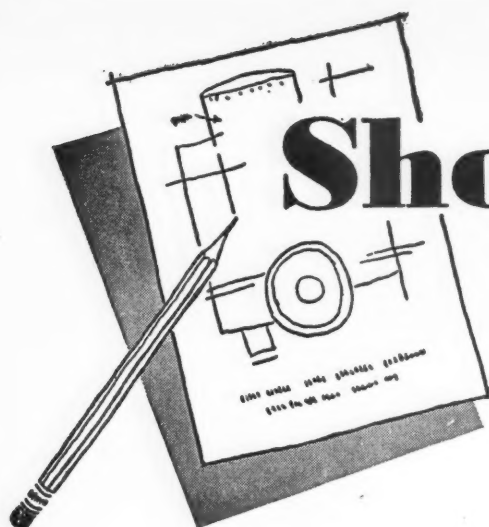
★ *2 The Centennial  
of Studebaker*

A CENTURY OF PIONEERING ON THE ROADWAYS OF THE WORLD

★ *3 Golden Jubilee of American  
Automobile Association*

FIFTY YEARS OF SERVICE TO THE MOTORIST AND THE NATION

THE STUDEBAKER CORPORATION



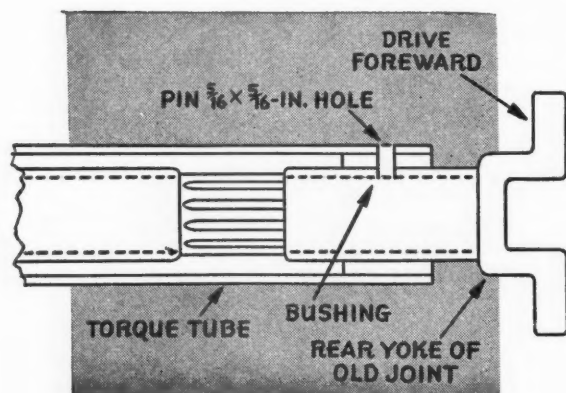
# Shop Kinks

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring seven-fifty, possibly 25 dollars.

**For The Best Kink Published Each Month . . . \$25**

**For All Kinks Published Each Month . . . \$7.50**

## Best Kink of the Month



### Removing Chevrolet U-Joint Bushings

To remove the universal joint bushing in the front end of the torque tube, drill out the dowel holding the bushing. Then, using a 5/16 inch bit, drill through the bushing. Using the rear splined end of an old universal joint place it in position on the shaft and make a center punch mark on the U-joint. With a 3/8 inch drill, make a hole through the sleeve at the center mark. Place the joint in position so that the holes in the torque tube, bushing and old universal joint sleeve line up. Drive a pin 5/16 inch long, sawed from a 5/16 inch bolt, into the hole far enough to clear the torque tube and remove the bushing by driving forward on the roller prongs of the joint.

*John Doll, 609 South 11th St., Rocky Ford, Colorado.*

### Removing Squeak from Steering Column Bushing

I am a mechanic and have been employed by a Dodge-Plymouth dealer for quite sometime. We often have trouble with a squeak in the steering column. This sounds like it is coming from the top bushing but after many a headache we have found it to be coming from the upper bearing in the steering box. By drilling a hole 1/8 in. about 1 in. above this bearing and shooting oil in, the squeak disappears.

*C. McCauley, 95 Suffry Avenue, Hicksville, Long Island, N. Y.*

### Short Cut In Assembling Cluster Gear Needle Bearings

When assembling the needle bearings in cluster gears of Chrysler built cars and others, I pack the bearings in grease and then use two reverse idler shafts out of a Model A Ford and a coil spring in the center.

After installing I press them together and drop the gear on the bottom of the case. After installing the driver gears, I raise up the cluster gear and it pops right in place. Then I take the counter shaft and shove it right through and it pushes out the other shafts and spring. This is the easiest method I have found and it works.



# There's no substitute for proven success!



Notice the roller on the *inside* of this cut-away piston which supports the skirt when pressure is applied to the knurling wheel. The displacement of surface metal is accurately controlled by air pressure on the knurling wheel *without* affecting the shape characteristics of the piston.

**NURLIZING**, the Perfect Circle method of re-sizing pistons, has given outstanding performance in over 5,500,000 installations!

Success invariably encourages imitation but the splendid record of NURLIZING remains unchallenged! Why? Because Perfect Circle NURLIZING is the one and only method of re-sizing worn pistons *quickly, accurately and permanently* without affecting the original shape characteristics of the piston.

Remember—there's a difference in piston knurling processes. For lasting dependability . . . for freedom from come-backs . . . insist upon proved Perfect Circle NURLIZING . . . the original! Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto.



## ONLY NURLIZING OFFERS ALL THESE ADVANTAGES

1. Increases piston diameter to exact predetermined size quickly, accurately, permanently.
2. Permits closer fit without danger of scuffing or scoring.
3. Eliminates piston slap, stabilizes pistons, increases ring life.
4. Interrupted surface assures adequate lubrication, longer piston life.
5. Equally effective on new or used, cast iron or aluminum pistons.
6. Enables dealers and Doctors of Motors to do better overhauls at lower prices.

# Perfect Circle

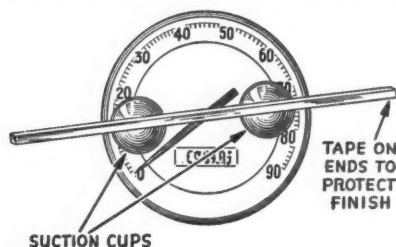
**NURLIZING • PISTON RINGS**  
*The Standard of Comparison*

## Shop Kinks . . . . . Continued from Page 58

100 per cent all the time. *Albert R. Oakes, Al's Auto Repair Shop, 2850 Evergreen Avenue, Salem, Ore.*

### Special Tool Is Handy For Speedometer Work

Here is a little tool that will perhaps save many trying moments for mechanics repairing speedometers. I have found that the back



of truck dashboards are very cluttered with air lines, cables, wires and many other units. These all make it very difficult to hold the speedometer and place the screws in, at the same time. With the little tool (shown here) placed firmly across the face, it will hold the unit in place. Then you can have both hands free to start the screws. *S. Kelly, 9604 8th Avenue, Baltimore, Maryland.*

### Eyebrow Tweezers Help in Master Cylinder Overhaul

When rebuilding master cylinders without removing them on late model Chrysler products, we found a lot of trouble in fishing out the piston with wire. An old pair of eyebrow tweezers solved our problem. By grinding the ends of the tweezers to fine points the piston can be grabbed by the small holes and pulled out easily. If the tweezers are of the short variety, a pair of duck bills can be used to pull the tweezers. *S. Fourgeot, Seton Falls Service Station, 1225 East 233rd Street, Bronx, N. Y.*

### Repairing Mounting Bolts On Tractor Radiators

This is how I repair the radiators on International Harvester tractors, and it might work on other makes. When the two lower

bolts that screw into a plate inside the radiator become loose, remove the lower tank, then the two plates which are riveted and soldered to the tank. After this take a piece of  $\frac{1}{8}$  in. flat iron 3 or  $3\frac{1}{2}$  in. long and drill a hole for a  $\frac{7}{16}$  in. bolt to go through. Then weld around the head of the bolt, and solder this to the lower tank, making sure the two studs are the same distance apart as they were when new. The side in which the water inlet is has to be notched so as to lie down flat on the tank. This idea has proven satisfactory on all radiator jobs of this kind. *Howey Wasson, 1529 Booker Street, Hannibal, Mo.*

### Quick Way to Replace Hudson Starter Bendix

I replace the starter Bendix on 1948 Hudson 6-cylinder cars without removing the starter from the motor by using a hammer and long punch. I bend the floor board up about  $\frac{1}{4}$  in. just behind the starter Bendix. Then remove the lock ring pin and slip off the starter spring. With extra clearance from the raised floor board, you can slip the Bendix off the starter shaft. I find that this cuts the time in half. *B. G. Smith, Schweer, Cadillac-Pontiac Company, Hot Springs, Ark.*

### Stopping a Leaky Muffler-Exhaust Pipe Joint

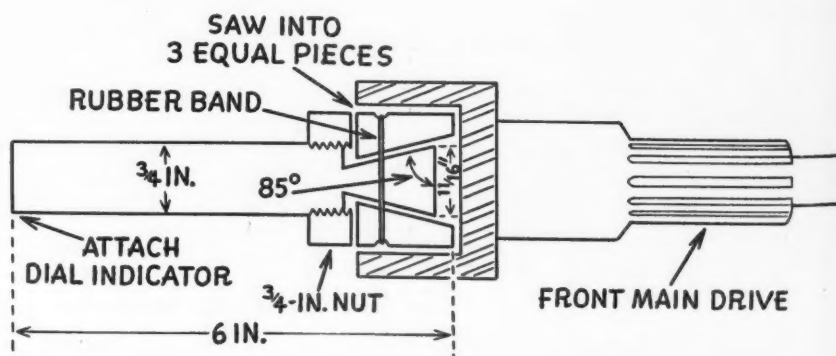
This is how I stop leaky muffler installations on Chrysler and Chevrolet products. When an old muffler is cut away from the engine pipe and the new muffler is installed, I always had an exhaust leak until

I found that by using one-half of an old connecting rod bearing inserted between my U-belt and pipe, I eliminated the leak. *Mr. M. Mitzman, 536 Hinsdale St., Brooklyn, N. Y.*

### Transmission Aligning Tool For Ford Trucks

I have found that on Ford  $1\frac{1}{2}$  and 2-ton trucks that fly out of high gear going down hill, especially ones in which the motor or the transmission has recently been removed. The condition is caused by the clutch pilot bearing and the front and rear top transmission bearings not being in line.

To check this and adjust, I have made an adaptor to fasten in the bearing hole in the rear of the front main drive. To use this tool, first remove the rear transmission support and rear shaft and attached gears from the transmission. Second, remove the bearing from the rear of the front main drive and insert the tool, tightening nut to hold it in place. Attach the dial indicator already in stock for adjusting gear backlash, to adaptor so as the point of the dial indicator revolves in the hole of the rear of the transmission case. Next, depress the clutch and revolve the front main drive. The reading should be zero and, if not, it can be made to read so by loosening the studs that attach the transmission to the motor and adding the shims of the proper thickness between the motor and the transmission housings. Remove the adaptor and replace the parts that have been removed and you are finished. *W. B. Scott, Ser. Mgr., Blueridge Motor Sales, P. O. Box 724, Lexington, Va.*





Chilton's MOTOR AGE

# Flat Rate and Service Manual

## How to Measure Frames

by Andy Grey, Editor, Chilton's Motor Age Flat Rate and Service Manual

**F**FRAME dimensions can be measured accurately, easily and quickly, without special equipment.

While it is true that highly specialized tools are needed to straighten or correct misalignment, accurate measurements can be made if the shop has a flat floor

space large enough to hold a car. All that is required are a plumb bob, a chalked line and an ordinary steel measuring tape.

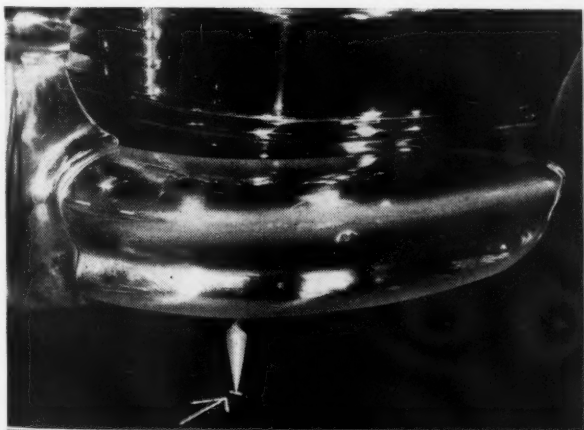
Roll the car onto the flat floor surface. Measure from the floor to each of the front frame horns (as close to the front cross member as possible), and if the dis-

tance from the floor to each front frame horn is not equal, make it equal, place a jack under the low side, and raise it until both frame horns measure the same where the front cross member joins the frame.

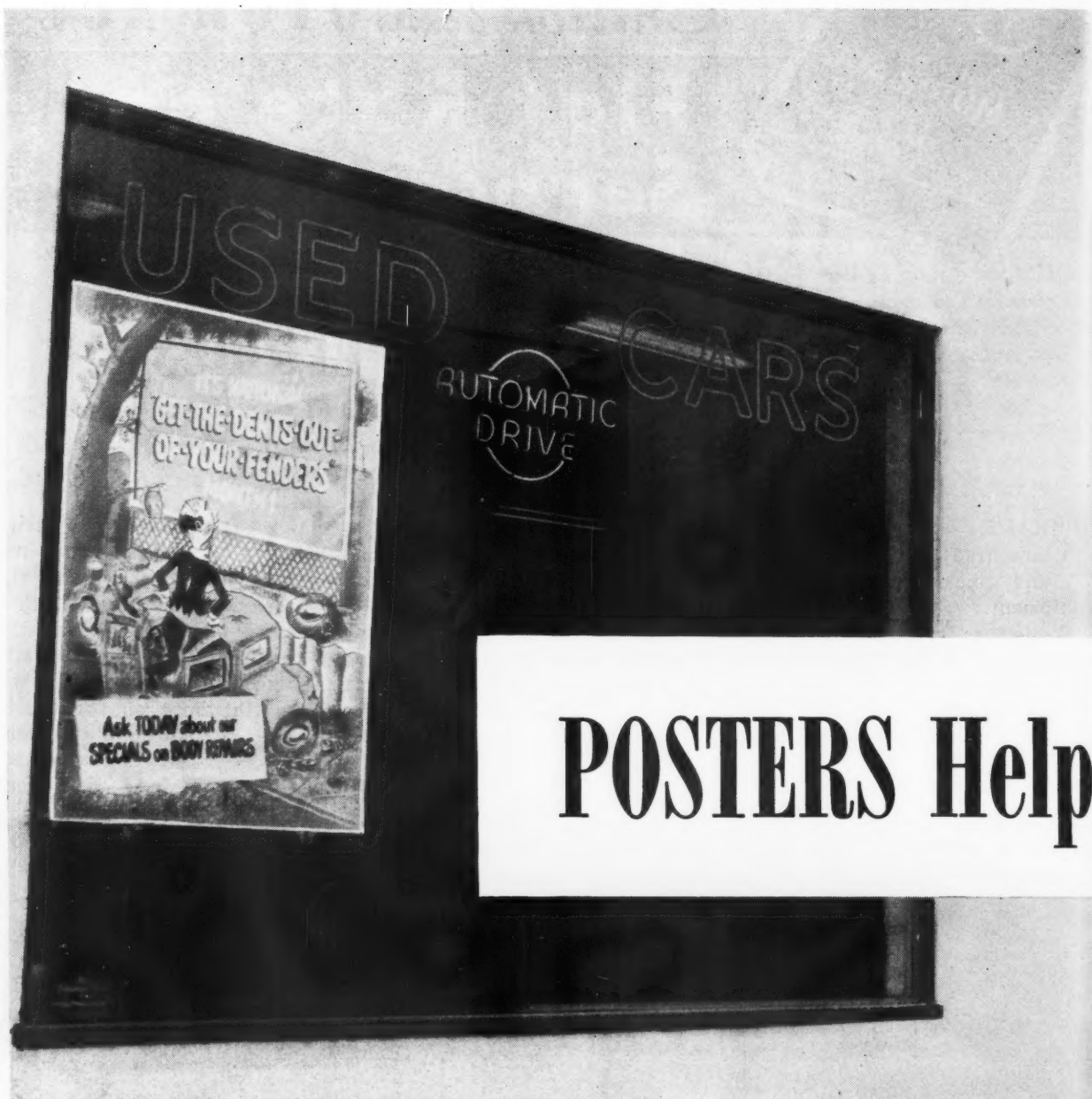
With the front of the frame  
(Continued on page 90)

**Inset.** Mark the chalk dot carefully, exactly under the point of the plumb bob.

**Write the measurements on the floor** so that they can be compared with correct frame dimensions.







This poster, mounted in the showroom window, was instrumental in drawing new customers into the shop for body and fender repairs.



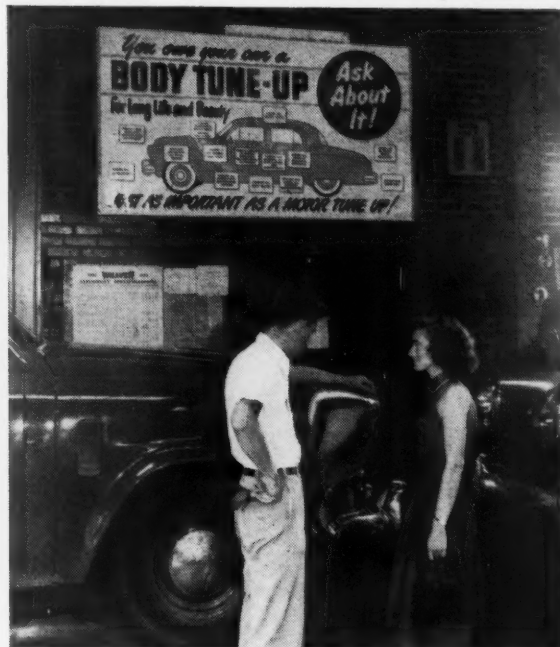
Promotional material supplied by the various manufacturers has helped this dealer in selling body shop service

**W**HEN a customer drives into the service department of Stout Studebaker of Upper Darby, Pennsylvania, he's bound to become "body conscious" about his car. This dealer has a very active body shop which turns out an average of 30 jobs weekly. To maintain this volume of work, they make use of "point-of-sale" advertising which is furnished by the manufacturers. According to James Stout, president of the firm, this material costs very little and sometimes nothing, but it certainly has paid off

Bob Protesto (right), the body shop foreman, uses a poster to show a customer the steps involved in a first-class body repair.



Lady-customers are often impressed by the poster shown above. This car-owner came in for wheel alignment, but may leave her car for body work.



## Stout Self Service

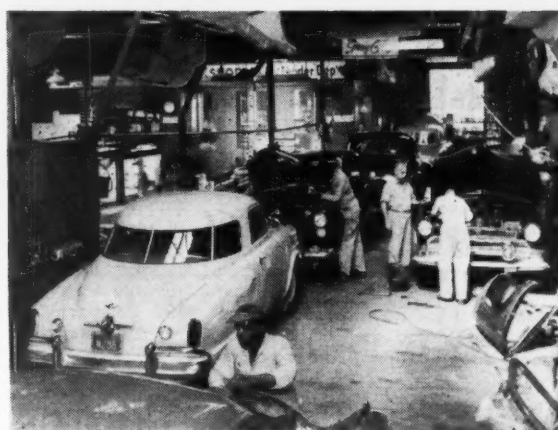


The Stout Studebaker building in Upper Darby, Pa.

in body shop service sales.

In June, for instance, during the national "Get the Dents Out of Your Fenders" month campaign, a poster advertising this service was prominently displayed in the showroom window. It was an excellent drawing card, and the service manager, Bob Steinhouse, reports that numerous customers asked curiously about it. That was a perfect starting point for a discussion of Stout's Body Shop facilities.

Inside the shop, in the customer reception



A portion of Stout's busy body shop. The paint spray booth is at the far end of the building.

area, a 4 x 7 ft. sign calls the car owner's attention to the importance of a body tune-up. These posters are not "plugs" for any one manufacturer's product but rather a "means to an end."  
(Continued on page 64)



## Posters Help Stout . .

Continued from Page 63

They promote body services which many cars need — services which increase the shop's profit and indirectly increase the sales of the manufacturer's products. At Stout's, body shop volume increased by about 15 per cent according to the body shop foreman, Bob

Protesto, as a direct result of the sales "campaign." The "Get the Dents Out of Your Fenders" sign was prominently displayed in the showroom window on June 1st, the first day of the month-long campaign.

This, along with large lapel but-

tons announcing the national "D. O. O. F." month, worn by the sales manager and the service salesmen, did a great deal to remind customers about body work which needed to be done on their cars.

Another sales piece which has proved very useful to the Body Shop foreman is a poster which explains the various operations necessary in a quality repair job. Occasionally after an estimate, a cost-conscious customer will remark about the seemingly high price to have a fender straightened and refinished.

Bob shows him this poster which describes, step by step, the procedure for doing a first class job. Naturally, Bob explains, a shop can "cut corners" and lower the price, but the repaired section will be obvious.



## Why professionals choose this gun for refinishing

Every year, more and more refinishers choose the Model 18 over other guns in the line and over other makes...and for very good reasons.

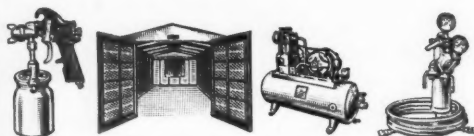
Binks Model 18 uses air more efficiently...its pressure drop is less than half that of other guns...provides finer atomization of the paint. Model 18 can take it...the forged gun body stands up under shop handling. And, most im-

portant of all, the Model 18 assures professional finishes because it's the finest gun we've made in our entire 25 years of supplying leading auto makers with spray painting equipment.

Take a look at this professional favorite on your next trip to your jobber. Compare it with others and see the great difference for yourself.

**ask your  
jobber**

for full information about Model 18 or write us for Binks Catalog 101. It describes the Model 18 and other Binks equipment for professional refinishing. Address: Binks Manufacturing Company, 3124-34 West Carroll Ave., Chicago 12, Illinois



GUNS • SPRAY BOOTHS • COMPRESSORS • EXTRACTORS & ACCESSORIES

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY



**"I'm sure you're competent, Miss Perry, but he's supposed to avoid stimulants."**

Stout's started the Body Shop service sales campaign on June first of this year. The main advertising effort was on the three posters mentioned previously. Jim Stout's figures show that in June and July service volume in the Body Shop increased 20 per cent over the same period last year. Also, the June and July figures for '52 are 20 per cent over the May figures for '52. Incidentally, the increase in the '52 over '51 sales is due largely to the sales campaign centered around the posters, since in the past year there were no changes in personnel or in any

(Continued on page 66)





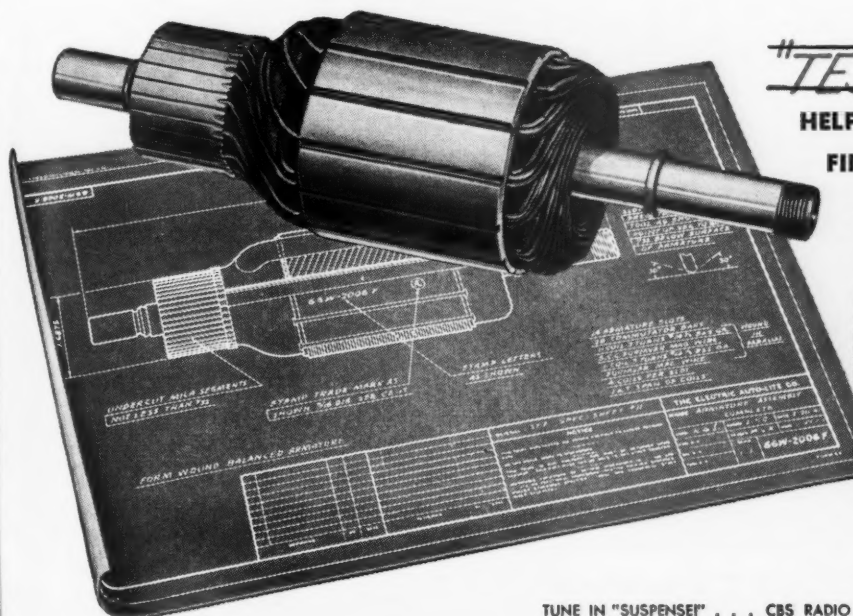
## "You can't give best service with half best parts"

"Nashua, New Hampshire, is a wonderful place to live, but like most small towns, you can't afford mistakes. Several years ago, I bought an odd line of ignition and electrical parts and it took darn near all of the profits I made on these parts to try to keep customers satisfied. I threw out every odd line in the place that wasn't Original Factory Equipment . . . and I've never been sorry. To give the best service, you have to have the best parts."

Herman W. Herold  
5 Lake St., Nashua, N. H.

The outstanding customer satisfaction Auto-Lite Original Factory Parts afford service men is proved by this fact: more than half of America's car makers specify Auto-Lite. Make the wise choice of original factory parts and protect your honest workmanship . . . and build your profits and your business. For full information, write direct to

THE ELECTRIC AUTO-LITE COMPANY  
Toledo 1      Parts & Service Division      Ohio



**"TESTED QUALITY"**

HELPS YOU DELIVER AMERICA'S  
FINEST ELECTRICAL SERVICE

ORIGINAL  
**AUTO-LITE**  
SERVICE PARTS

TUNE IN "SUSPENSE" . . . CBS RADIO MONDAYS . . . CBS TELEVISION TUESDAYS

## Posters Help Stout . . . Continued from Page 64

other factors which would increase sales.

The body shop at Stout Studebaker is not so big in itself, but compared with the size of the entire service department (it takes up almost half the service floor) it is expected to turn out a fairly large volume of work. This means giving a great deal of thought to

merchandising.

Several years ago, they built a glass-enclosed paint spray booth which served as a merchandising device as well as an important part of the functional design of the shop. Customers are invited to watch cars being painted — this is one of the most effective methods of letting the service sell itself.

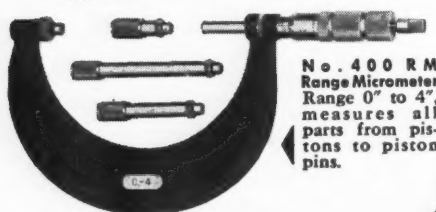
Mr. Stout explains that a number of posters are offered to him by manufacturers during the course of a year, but he uses them with discretion. He does not believe in posting a piece just because he has it on hand. First, there must be a definite need for the poster. Secondly, it must fit into a pattern with the other ones. He demonstrates this point with the body shop posters. One is located so that customers — or prospective customers — can see it from the outside. It arouses curiosity. The second one located where the service salesman talks with the owner, helps to promote sales of body work. The third one is a sale "clincher."

Other advertising helps which Stout uses from time to time are direct mail pieces and newspaper mats. But the combination of well planned poster advertising, alert service salesmen, and good workmanship are by far the most effective media, Stout believes. They bring in customers who become satisfied and in turn "spread the word."



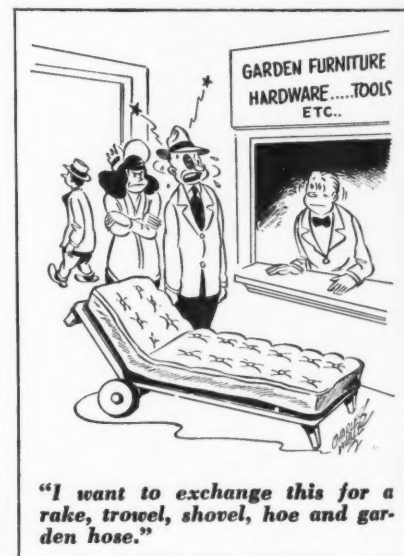
*These Mikes are made for **YOU!***

Central Tool Company, specialists in fine micrometers for auto repair work for over half a century, offer these outstanding micrometers to help auto mechanics do better work *faster!* Remember, there's a Central Certified Accuracy Micrometer for every automotive need . . . and for every pocketbook. See your jobber or write for catalog.



**THE CENTRAL TOOL COMPANY**  
462 WELLINGTON AVENUE  
CRANSTON 10, R. I., U.S.A.

LARGEST SELLING MICROMETERS  
THROUGHOUT THE AUTOMOTIVE WORLD



### Michigan School Adds Automotive Course

Ferris Institute of Big Rapids, Mich., will add a two-year course in automotive service and repair in its Trades and Industry Department when the fall term opens in September, according to Dr. K. G. Merrill, acting president.

# Electronic Baking Makes the Difference in these Cork Gaskets



## YOU PAY NOTHING EXTRA FOR THESE BETTER GASKETS

Why risk your profits and reputation with ordinary gaskets. For the same price, you can have modern-made, improved quality Armstrong-Victor cork gaskets. Your Victor Jobber carries factory-fresh stocks—in packaged sets or individual replacement parts—for every make and model.

Victor Mfg. & Gasket Co., P.O. Box 1333, Chicago 90, Ill.

**VIC CORKY SAYS:** Only genuine Armstrong-Victor Replacement Gaskets have this exclusive trade-mark—the two notches.



# Armstrong-VICTOR

**CORK COMPOSITION GASKETS • CORK SHEETS**

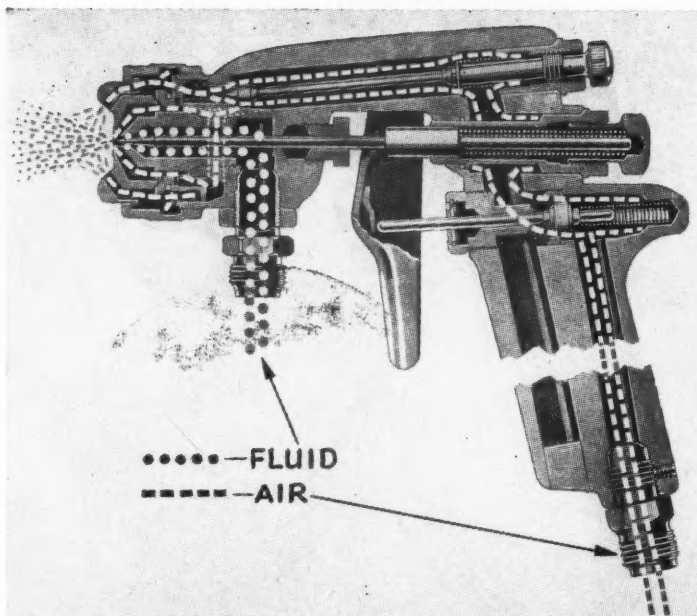
Here's a difference in gaskets that doesn't show on the surface. It's all in performance... in the easier way these gaskets handle... seal tighter... and stay tight!

You'll see this difference best as you seal up job after job in faster time... without a single leaker. You'll know how Electronic Baking improves cork gaskets as you deliver each job, fully confident it's sealed to last.

Electronic Baking is the new process of curing cork composition. It eliminates over-curing or under-curing—the uncertainty of steam processes. It was developed exclusively for Armstrong-Victor gaskets.

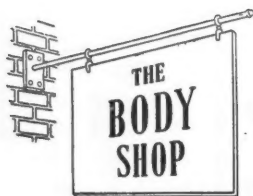
Electronic Baking preserves more natural liveliness of raw cork... gives gaskets extra strength and sealing power. It assures uniform quality never possible with steam curing.





Cross sectional view of a suction-type spray gun showing the passages of air and fluid.

# Respect Your Spray Gun



Here are the fundamentals of how a  
spray gun works, and how to keep it

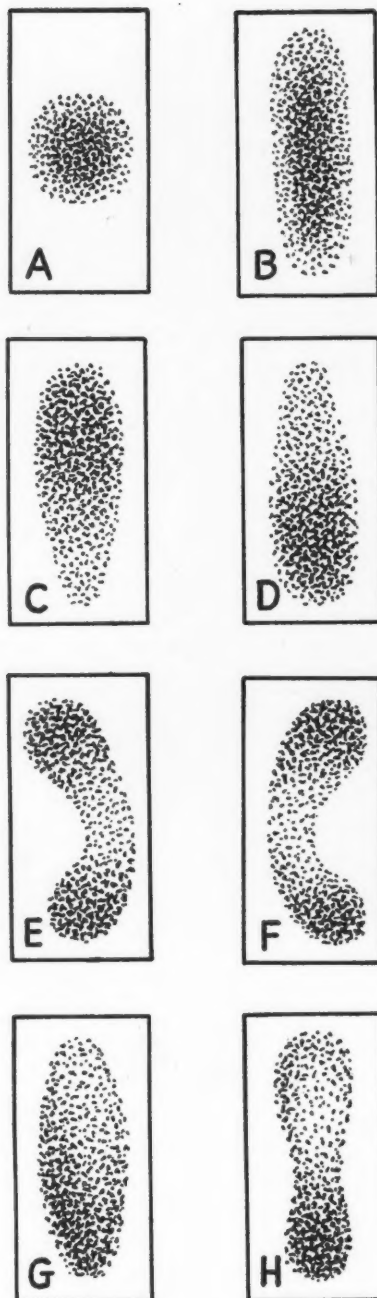
working by regular maintenance . . . by Arthur H. Nellen, Jr.

**J**UST as a carpenter cannot do his best work with dull tools, neither can a painter turn out quality jobs with a defective spray gun. There isn't much maintenance required to obtain consistently good performance from a spray gun, but the few points that are necessary should be looked after religiously, and the operator should know how his gun works to correct trouble which might arise.

Since the most common spray gun used in the automotive refinish trade is a suction gun, this is the type that will be dealt with in this article.

A suction gun operates on the principle of an atomizer. The air passing over the end of a passage leading from the paint cup creates a suction (such as the venturi action in a carburetor) thus drawing the fluid from the cup

(Continued on page 93)



Spray patterns. A and B are normal round and fan-shaped patterns, C, D, E, F, G and H are defective patterns described in the text.

# No Need to Change Rams

with a Hein-Werner

## "PUSH and PULL" HYDRAULIC JACK



One ram pulls direct,  
and pushes direct...

Saves hours of time and money

Why buy unnecessary rams, or go through wasted motions, for simple pulling operations. With a HEIN-WERNER "Push and Pull" you get a hydraulic body jack that pushes or pulls with the same ram by merely turning a valve from right to left. There's no need to break down an entire set-up each time you change the action. And you'll need no "trick setups" to convert pushing to pulling. All of which means fewer attachments to buy...less time to waste.

The HEIN-WERNER C-5 JacKit, shown, includes the powerful J-4 four ton "Push and Pull" Hydraulic Jack; complete assortment of 26 attachments and assemblies; and an open-shelf steel storage stand that rolls right to the job. Everything you need is within quick sight and easy reach. Ideal for the shop where the JacKit will be in constant use on body, fender and frame repair work.

Other new HEIN-WERNER JacKits are available in 10 and 20 tons capacity complete in chest or rollaway metal stand. Get all the facts from your H-W jobber today or write us for new No. 10 JacKit catalog.



Model C-5  
JacKit

The Hein-Werner line of hydraulic jacks is COMPLETE! It includes Under-Axle Jacks of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity... "Bumper-Lift" Hydraulic Jacks for passenger cars... "Swift Lift" and Service Jacks for shop use.



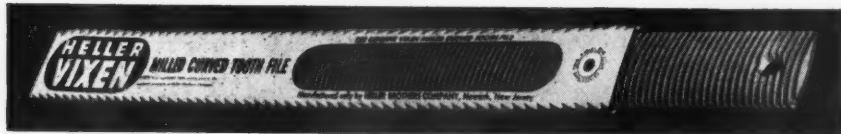
**HEIN-WERNER CORPORATION**  
**Waukesha, Wisconsin**

is seriously overchoked.

The fuel pump is mechanically operated off an eccentric on the camshaft. It is mounted on the right side of the crankcase. A filter is incorporated on the fuel pump, and should be examined and cleaned every 2000 miles. Access to the filter is gained by removing the dome cover after unscrewing the

retaining screw. Then the filter gauze may be lifted off its seat. Remove the drain plug and clean out the sediment chamber. The filter gauze should be cleaned with gasoline and blown out with air. When replacing the gasket, under the filter cover, be sure that the cork has not hardened or broken. When in doubt replace the gasket.

"VIXEN" FILES ARE MADE ONLY BY HELLER



**No. 3 of course!** Your customers, too, will smile all over when they get a flawless body and fender job that has been finished with a "VIXEN" file.

Because of the superior cutting power of its uniform, deep, curved teeth, a "VIXEN" shears welds and high spots almost like a plane. Non-clogging, it won't load or fill. That means no scratching, no wire edges, no hollow centers. Surface is left with a bright, smooth, sleek finish, with that wonderful "like new" look.

See your jobber for the shapes and cuts you need.

**HELLER BROTHERS COMPANY**



A New Jersey Corporation  
America's Oldest File Manufacturer  
NEWCOMERSTOWN, OHIO

**Easy to Identify "VIXEN"  
By the White Envelope**

For your own protection against imitations, look for "VIXENS" in factory-sealed white envelopes, packaged in a white carton.



Handy holder easily curves "VIXEN" to fit surface. Only a "VIXEN" can be resharpened again and again.



Spark plug gap setting is .028 to .032 inches. The factory recommends cleaning and testing the plugs which are of the 14 mm. type, every 3000 miles and replacing every 10,000 miles.

The distributor cap is held on by two spring clips. Remove the clips and the cap for all distributor service. Contact points can be cleaned by drawing a piece of clean, lintless rag between them, moistened with carbon tetrachloride. Proper setting is from .010 to .012 in. A few drops of light engine oil should be added to the lubricating hole under the rotor arm. The cam should have a slight smear of high quality grease and the moving contact pivot should have a single drop of light engine oil. Also the moving parts of the automatic advance pivot must be lubricated with light engine oil. This can be accomplished by putting a few drops through the hole in the contact breaker base through which the cam passes. On a tune-up job where mileage or condition of the points indicate the need for it, replace the contact points or condenser. These parts are fairly inexpensive and will help to assure trouble free driving and peak performance. When in doubt, test the coil to be sure that it is performing properly and if necessary replace it.

As with all other British cars, the Hillman Minx uses a 12-volt electrical and ignition system. This presents no complications with regards to service. To check the generator, remove the band which cov-

(Continued on page 72)



"Hey George, tell the wife she can order that mink!"





HERE'S HOW IT ALL BEGAN

BILL, I'D LIKE MY FORD CUSTOMERS TO KNOW THAT I USE GENUINE FORD PARTS.

THAT'S EASY. WE'LL GIVE YOU A GENUINE FORD PARTS SIGN IT WILL PAY OFF IN EXTRA FORD REPAIR BUSINESS. I'LL GET YOU THAT SIGN RIGHT AWAY.



## Ask your Ford Dealer or mail this coupon to get your free Genuine Ford Parts sign

Ford owners, the country over, have come to recognize the Genuine Ford Parts oval as a sign of good service. And, with new, hard-hitting ads running in LIFE and many other magazines, more Ford owners than ever will realize the advantages that you can offer.

Get acquainted with your Ford Dealer. He can give you full information on how to obtain this sign. And he will also be able to give you some helpful hints on how to make bigger profits in your parts business.

The Genuine Ford Parts sign is easy to get and costs you nothing. Coupon below will bring you full details and show just how you'll benefit.

### MAIL THIS COUPON NOW!

#### PARTS AND SERVICE SALES DEPARTMENT

Ford Division, Ford Motor Company, Box 658, Dearborn, Mich.

Please send me complete information telling me how independent garages can get a Genuine Ford Parts sign. I'd like to cash in on this, too!

FIRM NAME \_\_\_\_\_

INDIVIDUAL'S NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

ers the access holes. If the commutator is blackened or appears dirty, it should be cleaned with carbon tetrachloride. The generator has a wick type lubricator at the commutator end. The cap should be removed and the wick lubricated with a good quality grease or petroleum jelly. The brushes should be cleaned occasionally with carbon

"tet" and tested for sticking.

The Hillman Minx has hydraulic brakes on all four wheels. The front brakes have two leading shoes, with twin wheel cylinders. The rear brakes are of the single cylinder type. The hand brake works mechanically on the rear shoes. When the brakes are properly adjusted there should be  $\frac{1}{2}$  inch free move-

ment of the brake pedal before the piston and the master cylinder begin to move. To adjust the brakes, be sure that the hand brake is on and jack up one front wheel until it is free to rotate. Remove the hub cap and spin the wheel until the hole in the road wheel and brake drum is opposite the slotted end of one of the "micrem" adjusters. With a screwdriver, turn the adjuster clockwise until the brake shoe is in contact with the brake drum and then turn the adjuster counter-clockwise one notch. This should provide the proper clearance between the shoe and drum. If the pedal still seems low, spin the wheel and apply the brakes hard. This will assure correct shoe positioning after which a further adjustment should be made. Then turn the road wheel through 180 degrees and repeat the procedure on second "micrem" adjuster. Each of these adjustments must be made separately. To adjust the rear brakes, chock the front wheels and jack up one rear wheel until it is free to rotate and spin the wheel so that the hole and "micrem" adjuster line up. Then use a screwdriver to turn the adjuster clockwise until the brake shoes contact the drum. Apply the foot brake hard until the wheel cylinder is centralized and release the brake. If, after doing this, the wheel is still locked, turn back the adjuster one notch or, if necessary, two notches to provide correct clearance between the shoes and drum. However, if the wheel is free to rotate after centralizing, turn the adjuster until the shoes are in contact with the drum and then turn the adjuster counter-clockwise one notch. Repeat this procedure on the other rear wheel.

There is only one "micrem" adjuster to each rear brake. Normally, the hand brake is adjusted automatically, when the foot brakes are adjusted. However, if further adjustment is necessary, turn each rear brake adjuster clockwise as far as it will go so that the brake is locked on hard. Then, with these adjusters still in position and the hand brake off, adjust the cable length so that the slack is taken out

(Continued on page 74)

## Here's a steady supply of Oxygen and Acetylene

### THE AIRCO LEASE CYLINDERS PLAN

Here's the plan you've been waiting for. A maintained stock of full cylinders to switch for your empties — when you need them . . . where you need them. Under this new Airco 25-year Lease Cylinders Plan (their estimated lifetime) you are assured of cylinders needed to carry on your business and repair your equipment.

#### PLUS: THESE 3 IMPORTANT ADVANTAGES

- BETTER CYLINDER COMBINATIONS** — Several sizes of Airco oxygen and acetylene cylinders can be supplied in combinations to best suit your requirements.
- GREATER ECONOMY** — You save demurrage — up to \$7.60 a year depending on the size of the cylinders you lease. You save on maintenance and repair . . . we do the testing for you . . . nearly \$12.50 over the lifetime lease period.
- INSTANT AVAILABILITY** — When your cylinders are empty you get a pair of full ones promptly. No valuable time lost waiting for cylinder re-fills.

AT THE FRONTIERS OF PROGRESS YOU'LL FIND

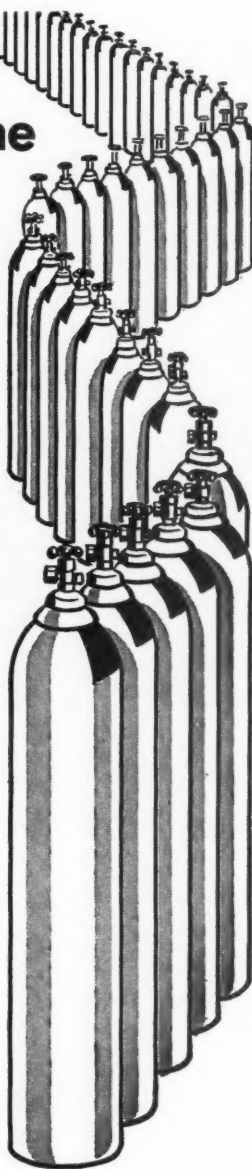


## AIR REDUCTION

Offices in Principal Cities

Plus a Nationwide Dealer Organization

Headquarters for Oxygen, Acetylene and Other Gases . . . Calcium Carbide . . . Gas Cutting Machines . . . Gas Welding and Cutting Apparatus, and Supplies . . . Arc Welders, Electrodes, and Accessories



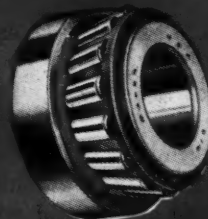
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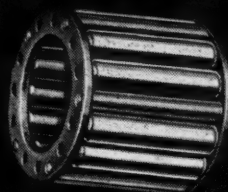
Federal-Mogul

Service

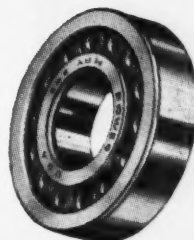
Tapered  
roller bearings



Journal  
roller assemblies



Straight  
roller bearings



BOWER

TAPERED AND STRAIGHT ROLLER BEARINGS

When you need quality roller bearings—with  
"right-now" service—get Bower roller bearings  
from your Federal-Mogul jobber!

You get both tapered and straight roller bear-  
ings in the Bower line—famous in original  
equipment. And you can depend on "right-  
now" Federal-Mogul service. Ask your  
*Federal-Mogul jobber!*

**FEDERAL-MOGUL SERVICE**

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN





of the linkage. Then release each rear wheel adjuster one notch or until the brakes are free.

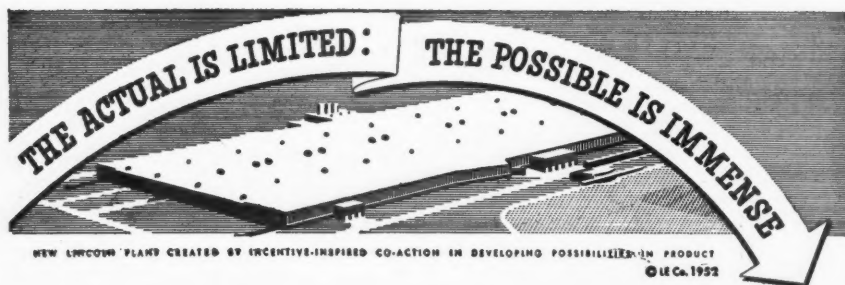
In aligning the front wheels, the factory recommends that the settings be checked with the vehicle on the level floor and loaded with weights of 274 pounds on the front floor compartment. Toe-in is  $\frac{1}{8}$  inch, camber is  $\frac{3}{4}$  degree plus

or minus  $\frac{1}{4}$  degree positive and caster is  $3\frac{1}{2}$  degrees positive. King pin inclination is 8 degrees and 15 minutes positive. Use a dependable wheel alignment checking device. If it is found necessary for camber adjustment, open the hood and loosen the upper control arm pivot nuts. To increase camber remove the shims from the wheel side of

the upper control arm. To decrease camber, add shims to the wheel side of the upper control arm. Thick and thin shims are available for this purpose and each thick shim gives the equivalent of  $\frac{1}{3}$  degree change in camber angle. Shims which are removed from one side of the control arm pivot must be replaced on the other side, because the gaps between the upper control arm shafts and the upper bracket must be fully packed with shims. Always check toe-in after resetting camber. Toe-in adjustments are made by changing the length of the tie rods in the usual manner. Caster is not adjustable and if caster angle is found to be out, it is an indication that some parts are bent and should be straightened or replaced as necessary.

The front independent suspension makes use of coil springs, while the rear suspension consists of two semi-elliptical leaf springs. Double acting shock absorbers are used. No adjustment of the shock absorbers is required, and therefore no attempt should be made to disassemble the unit. Normally, no periodical addition of shock absorber fluid is required, but if it is necessary, the shock should be removed from the car.

There are, of course, a number of other services which could be required in dealing with the car. However, there is nothing which would be likely to present any particular problem in an American repair shop. Parts are readily available from the local Hillman Minx dealer or distributor.



## Simplifies maintenance to cut costly man-hours



**Fig. 1. Alters Frames**—Changes in frames are speeded with "Fleetwelder's" faster, easier welding. Top quality welds in all positions assure dependable workmanship at lowest shop cost.



**Fig. 2. Reinforces Trailers**—Where specially heavy loads must be handled, channels are welded to frame and trailer body. Enables carrier to haul heavier cargo. Increases profitable life of equipment.

## HERE'S MORE RANGE TO DO MORE WORK

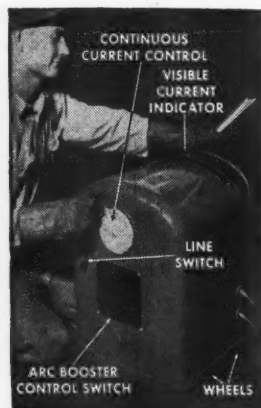
... and at less cost

Selects any welding current from 20 to 220 amps.

"Fleetwelder's" dial-tuning gets the exact amps for every job. Handles  $\frac{5}{16}$ " to  $\frac{1}{4}$ " electrodes for light body work and heavy frames. Non-sticking arc eliminates arc striking difficulties.

Each time the electrode touches the work the Arc-Booster starts the arc... automatically. Instant penetration with the Arc-Booster eliminates cold overlaps—assures top-quality welds, takes less skill to operate.

Compare the price! Built of rugged, industrial-type construction. Has ample reserve for heavy welding... yet sells for less than other arc welders of similar capacity.



**Fig. 3. "Fleetwelder 200 AC"**—Lincoln AC arc welder with Arc-Booster, simplifies arc welding. Conforms to NEMA standards. Easy to install. Operates on single phase current.

Send for free Bulletin 1301 on "Fleetwelder 200 AC", write Dept. 304

## THE LINCOLN ELECTRIC COMPANY

CLEVELAND 17, OHIO

The World's Largest Manufacturer of Arc Welding Equipment



handle ALL pulling jobs

swiftly...easily...profitably...with

# \* Snap-on INTERCHANGEABLE PULLER TOOLS

ON EVERY COUNT you're money ahead with Snap-on Pullers.

*Money ahead* in first cost, because fewer Snap-on units cover a far wider range of pulling operations. *Money ahead* in time saved per job... right down the line Snap-on gives you the fastest, most efficient and adaptable pullers yet designed. *Money ahead* in durability... because they're Snap-ons, finely manufactured to traditional Snap-on standards of rugged strength and long life.

Let your Snap-on Man show you how the *right* combination of puller units can do *more* work for you...more easily...at lowest cost! Let him demonstrate these typical Snap-on puller units:

- A —2-jaw medium slide-hammer puller—8 1/2" jaw capacity.
- B —2-jaw basic gear puller—4 1/2" jaw capacity.
- C —Axle puller head—fits all sizes.
- D —Chrysler grease retainer puller.
- E —3-jaw medium basic puller, 8 1/2" jaw capacity.
- F —Valve puller head.
- G —Bearing puller tool.
- H —Long jaws—fits yokes of (A) and (B).
- I —Chevy bearing race remover unit.
- J —Brake cable remover.
- K —Large gear puller—14" jaw capacity.
- L —Chevy truck axle puller unit.
- M —Bearing separators, for pulling double bearings, closely fit gears, etc.

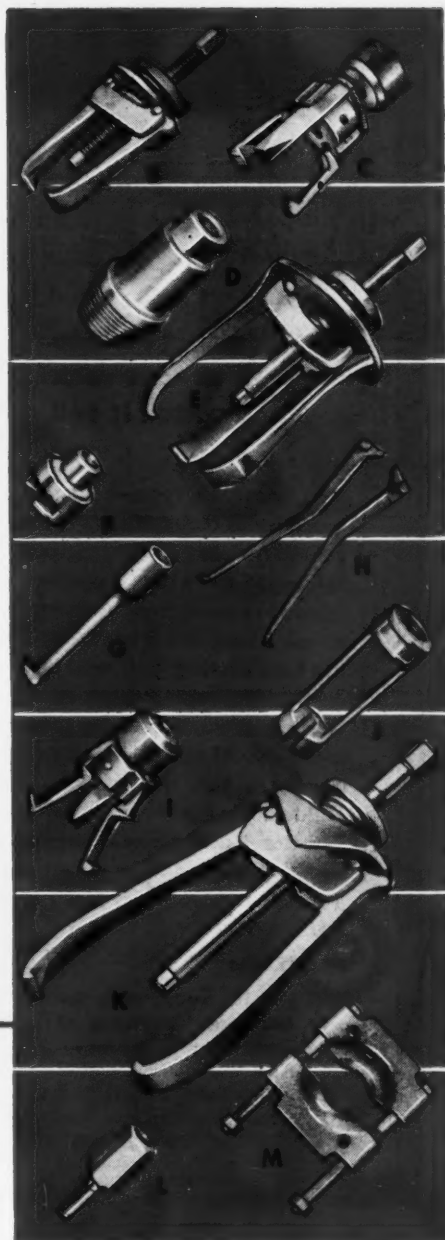
Note: Units (D), (F), (G), (I), (J), and (L) are used with slide hammer and shaft of (A).



**SNAP-ON TOOLS  
CORPORATION**

8036-I 28th Ave., Kenosha, Wis.

\*Snap-on is the trademark of Snap-on Tools Corporation.



## Pop Hits A Miss . . . . Continued from Page 45

that her Ford had a miss on acceleration.

"Oh, we can fix that easy," said Larry. "I'll get it, Miss Francis, It's pouring rain out there."

"Now just wait a minute there boy," said Mehitabel pompously. "The job is not so easy as you seem to anticipate. Recently my carburetor was overhauled and my fuel

pump checked and found that to be in excellent condition. The spark plugs are an entirely new set. All the wiring has been checked, including the ammeter and the ignition switch," she added in the tone of a school ma'm giving a lecture. "And I have also purchased a new coil. I still have the miss. Since I am in no financial position to en-

dow any repair shop, I finally told the operator of this rival establishment that I would be forced to take my work elsewhere."

"Your worries, ma'am are at an end," said Larry. "Here we fix cars."

He went out into the rain and shortly had Mehitabel's car inside out of the rain. He flipped up the hood, knocked off the distributor cap and put in new points. He started to replace the distributor cap, then a look of concern crossed his face.

"Say Miss Francis, you wouldn't happen to know if that other fellow put in a new condenser too?"

"Yes," said Miss Francis. "But it's not happenstance. I *know* he put in a new condenser when he sold me that coil."

Larry scratched his head for a minute. "Well normally, I think, we'd find that it would be points on a job like this, but I think we'd better test it."

"Young man," said Mehitabel, "I watched you grow up. I've watched you repair cars. I've watched you drive cars. Thank you, I will test my own car. I do not think your right foot weighs enough to get that accelerator to the floor boards fast enough to make my kind of a test."

"The roads are pretty slippery, Mehitabel," Pop warned.

"In 1912 I drove my first automobile," said Miss Francis primly as she hopped inside.

(Continued on page 78)

### Designed for the man who likes to watch his car being greased

Hang it next to your grease rack and watch it sell



You know the type—comes in on Saturday morning in old clothes. Watches while you grease his car.

When he spots that big yellow steel cabinet (given to you with each assortment) he's sure to ask about his front wheel bearings. For his safe driving you will be able to make on-the-spot replacement. Each kit has eight bearings, two each of the four most popular front wheel sizes. There's room for other bearings, too. How do you get this sales builder? Just call your local NAPA jobber. But act fast: with restrictions on steel, the supply is limited. Better call today.

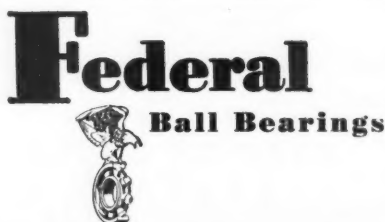
The Federal Bearings Co., Inc., Poughkeepsie, N. Y.

THIS DISPLAY CABINET is YOURS with Federal Front Wheel Assortment No. 3

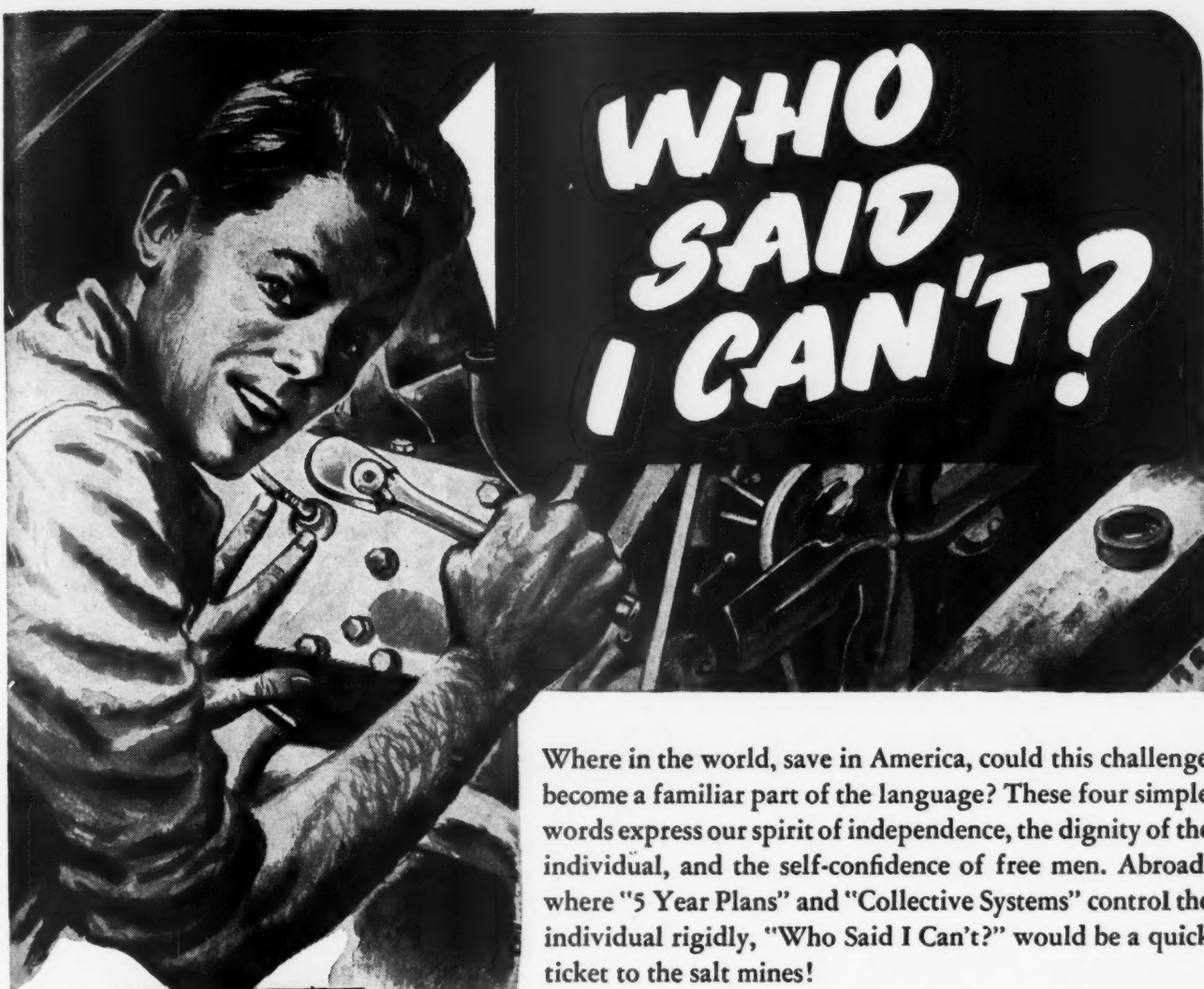
- Handsome yellow and black finish—helps build sales for all replacement jobs
- Small investment
- Attractive profit
- Application chart included
- Complete installation instructions
- Easy to install

#### JOBBER:

Will you be ready when the calls come in? Thousands of other jobbers are. Call your local NAPA warehouse today to find out how many Federal No. 3 Assortments he can give you.



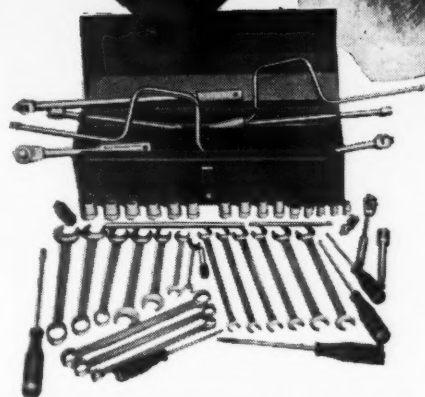




Where in the world, save in America, could this challenge become a familiar part of the language? These four simple words express our spirit of independence, the dignity of the individual, and the self-confidence of free men. Abroad, where "5 Year Plans" and "Collective Systems" control the individual rigidly, "Who Said I Can't?" would be a quick ticket to the salt mines!

Analyze that big statement in four little words a bit. Think of "Who Said I Can't?" in terms of a man's relationship with his boss ... his neighbor ... or, in your own day-to-day problems of meeting and overcoming obstacles — handling your job — accomplishing things.

In boom times or bad in this *free* country, real mechanics working with good Hand Tools stand up and challenge with an emphatic "Who Said I Can't?" It's American, brother, and it's still very much yours ... don't let anyone take that birthright away from you. Let's keep our American system — and work to make it better.



**NOTE TO MECHANICS:** Here are the good Hand Tools of your trade. From slim, powerful Sockets and dependable Flat Wrenches to the ingenious, time-saving, special Tools for automotive work, you'll find New Britain has everything you demand in practical utility plus solid quality. Ask your Jobber to show you this money-making Set No. 6050.



# New Britain

**GREATER STRENGTH • BETTER FIT**

**THE NEW BRITAIN MACHINE CO. • NEW BRITAIN, CONN.**

# HAND-TOOLS



...Where  
**BALANCE**  
*is needed!*

**PERFECT**  
WHEEL WEIGHTS



**The Wheel Weight  
that lives up to its name**

● "U" TYPE

A favorite in the industry. Fits ALL rims having factory trim rings except late model Cadillacs.

● "C" TYPE

The "C" type weight (new style) in six sizes will give most satisfactory results on passenger cars with "K" or "L" type rims.

● "SPECIAL" TYPE

Made for late model Cadillacs with hub caps covering entire wheel, except 1951 model for which "C" type weight is recommended. 6 sizes.



**PERFECT EQUIPMENT CORP.**

804 W. Morgan St. KOKOMO IND. P.O. Box 706



*Manufacturers of Wheel Weights for Trucks and Passenger Cars*

## Pop Hits . . . .

Continued from Page 76

Before Pop and the two mechanics had finished their coffee, Mehitabel was back. "Still misses, still misses. Anyone else around here like to make a wild guess?"

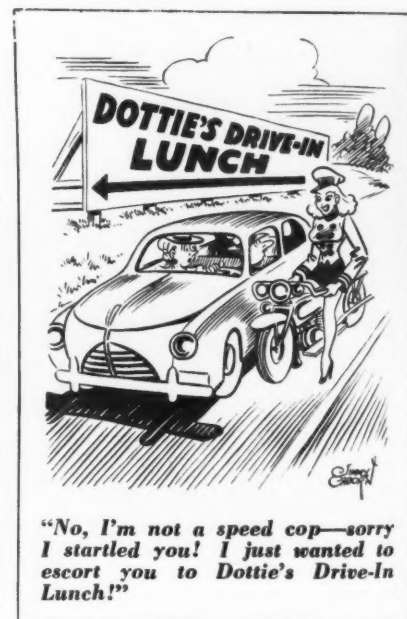
"Yes," said Pop setting down his container. "I think I would. Who did your other work, Mehitabel? Mind telling me?"

"It was my brother, and he's a mighty fine mechanic."

"Yes," Pop conceded readily. "He certainly is. Machinist though isn't he? Not mechanic?"

"Machinist by trade," Miss Francis corrected. "Mechanic by avocation, and he certainly knows what makes a car run."

"He certainly does," Pop agreed. "And he's a good mechanic and a



mighty fine machinist. I have nothing but the greatest respect for his work. I just wanted to make sure that what had been done in the past had been done right. Sometimes we can save considerable time when we're looking for troubles, if we know that we don't have to recheck what already has been done. Let's take a look at that distributor cap first."

He flipped off the cap, turned it upside down, but it was in excellent condition. "Hm," he said to himself. "Acts as though there might

(Continued on page 86)

# THE BIG 3...

*in the  
cable field!*

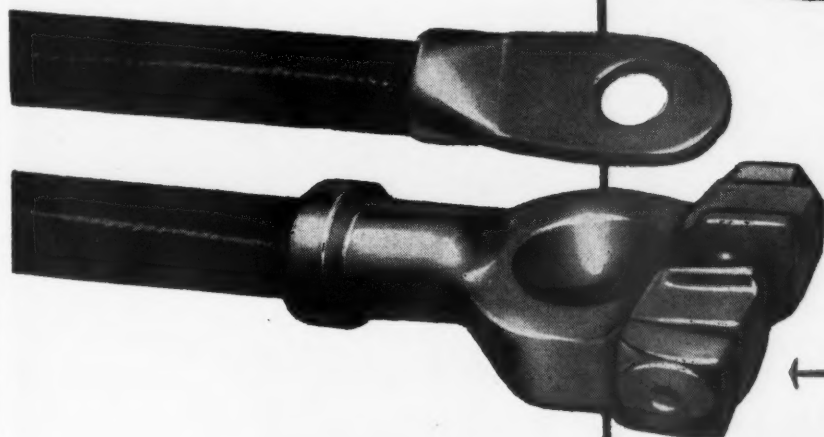
## PACKARD IGNITION CABLE

Long considered the "standard of the automotive industry," Packard high-tension cable is original equipment on more cars, trucks, buses and tractors than any other cable. Packard FOUR-FORTY and Packard LAC-KARD ignition cable are designed to deliver balanced performance in every application.



## PACKARD BATTERY CABLE

Packard battery cables are used as original equipment on more cars, trucks, buses and tractors than cables of any other make. Packard battery cables are full size, full weight... are available with LEADALLOY terminals or leaded brass terminals. Both types are packaged in individual cartons—both deliver top performance—both have acceptance, everywhere.



## PACKARD LOW-TENSION CABLE

As with Packard's two other products, Packard low-tension cable is used as original equipment on more cars, trucks, buses and tractors than cable of any other make. Packard's "249 Compound" insulation, by every laboratory test and by the test of long, hard usage, has exceptional resistance to heat, oil, chemicals and abrasion.




**Packard**  
REG. U.S. PAT. OFF.  
TRADE MARK

Packard Electric Division, General Motors Corporation  
Warren, Ohio

**FOREMOST BUILDER OF AUTOMOTIVE  
AND AVIATION WIRING**



# World's most modern *Portable* hydraulic



Self-Locking Extension  
Screw with Integral Cap

Pendulum Balance

Base OK by X-ray

Snug-Fit Power Pump

Solid End Lifting Ram



# WALKER

# .... WALKER *Series* 900

*Nowhere else can you find such features as*  
**Pendulum Balance · Rhyth-Matic Valve Action**  
**Micro-Accurate Release**  
**8 great models · 1½ to 50 tons capacity**

● Here is the portable hydraulic proved in performance, dependability, safety . . . proved on the road and in the shop . . . proved throughout its entire range of models and capacities. Here is the portable hydraulic famous not only for its finer precision manufacture, but for its smooth, fast, dependable operation and its rugged streamlined construction.

The Walker Series 900 is truly modern . . . modern with its "Projectile" tank, designed in the shape of a heavy armor piercing shell to withstand greater shock

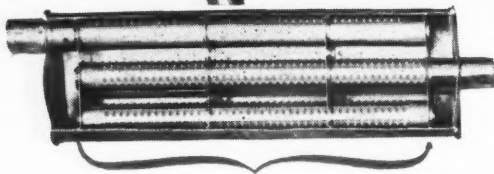
and distribute the weight uniformly . . . modern all the way to its rugged malleable iron base and pump barrel, X-ray tested against imperfections. Over a period of many years, Walker has continually developed such significant refinements and improvements in a never-ending quest for true jack perfection.

Whatever your needs, there's a Walker Series 900 Portable Hydraulic to handle the job with speed and safety and with strength aplenty to give you the finest dollar-for-dollar value in the field today.

**WALKER MANUFACTURING CO., OF WISCONSIN · RACINE, WISCONSIN**

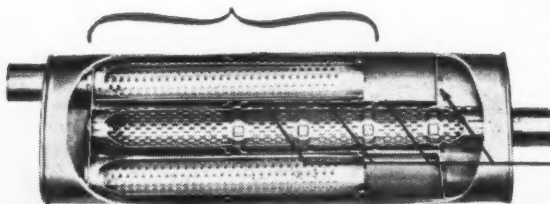
*Makers of Walker Jacks, Exhaust Silencers, Oil Filters and Electric Lifts*

# Leads in Jacks



### TRI FLOW

"Reverse Flow" gives  
Note Reducing Action

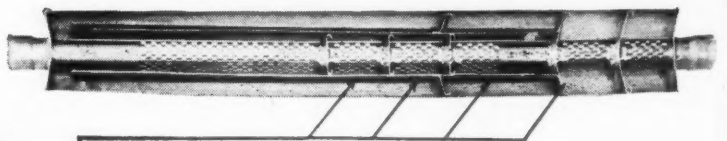


"Combined Action" Design

### THE PROBLEM OF TAIL PIPE BARK

Heavier explosion pressures of new high horsepower engines and V-8 dual manifolding greatly increase the severity of "Tail Pipe Bark." Walker "Precision Tuning" meets and solves this new problem.

In "Direct Flows" by the use of special filtering chambers. In "Tri-Flows" through Walker "combined action" design which brings together the superior "spit-reducing" characteristics of "straight-thru" design with the superior note reducing qualities of tri-flows.



### DIRECT FLOW

Special "Straight Thru" Roughness Control Chambers—advanced application in Tri-Flows to control Tail Pipe "Bark"

NOW MORE THAN EVER  
**WALKER SILENCERS**  
MAKE THE DIFFERENCE!

### "INDIVIDUAL TUNING"

For the Millions of Fine Automobiles,  
Trucks and Buses in Active Service.

### "PRECISION TUNING"

For the New Generation of Engines and  
Automobiles—Now and to Come.



# Horsepower is on!

## ... AND WITH IT COMES "PRECISION TUNING"

### A NEW GENERATION OF WALKER SILENCERS

TO MEET THE NEW AND MORE COMPLEX  
PROBLEMS OF A NEW GENERATION  
OF ENGINES AND AUTOMOBILES

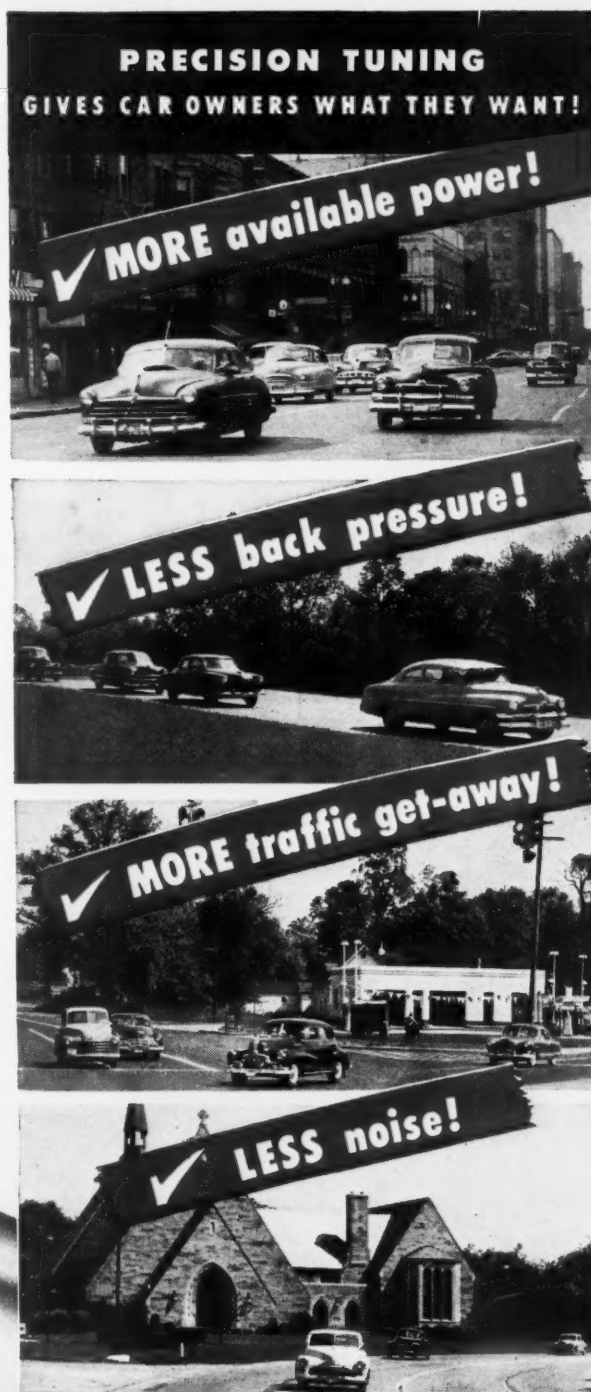
● Improperly designed mufflers are horsepower thieves! No longer can yesterday's mufflers meet even the minimum requirements of today's new standards of car performance and engine design. More powerful engines . . . greater horsepower . . . more intense explosions mean heavier power notes . . . greater "tail pipe bark" . . . greater muffler body and exhaust pipe noise . . . greater volume of exhaust gases. More automatic operation and increased flexibility through automatic transmissions mean more critical power note peaks through "accelerating-to-cruising" range of operation. Greater economy and quieter, smoother ride mean more rigid back pressure limitations . . . more rigid acoustical specifications.

There is no single solution such as "trick shell construction" to these new and complex problems. Exhaust system design is now an integral part of engine design . . . and must comprehend and successfully meet the entire broad front of new engine performance.

To meet these new requirements, Walker now offers a new and advanced concept which brings the exhaust system into its true position as a specific engine part—*Precision Tuning*—a new generation of Walker Silencers for the new generation of engines now—and in the years to come—with Walker "Individual Tuning" . . . for the millions of "other generation" vehicles now in service.

WALKER MANUFACTURING COMPANY OF WIS. • RACINE, WIS.

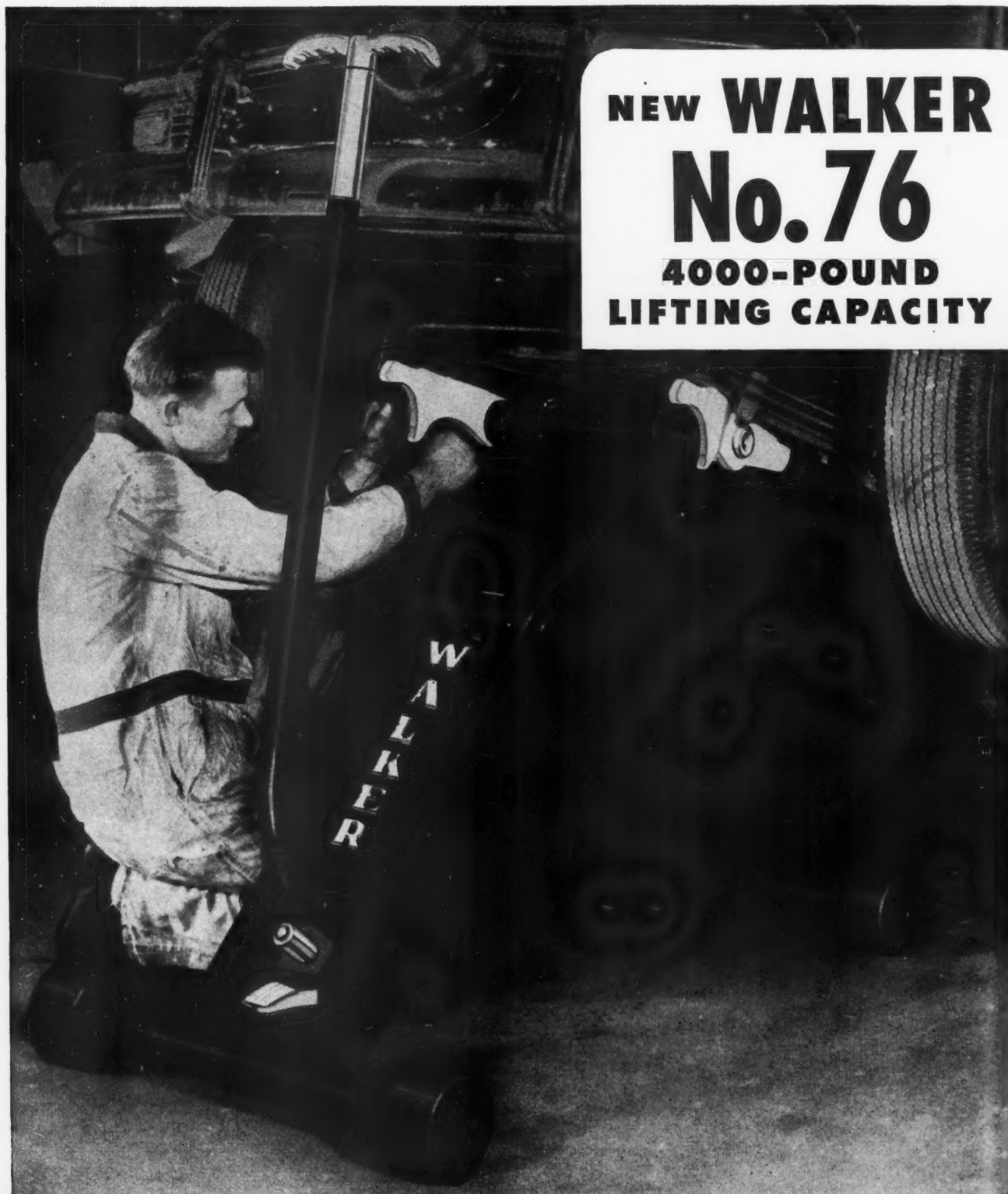
Exhaust Silencers • Jacks • Lifts • Oil Filters



*Now Walker brings you an entirely*

AS EASY TO POSITION AS A JACK . . . AS SAFE AND STABLE AS A LIFT . . .

**NEW WALKER**  
**No. 76**  
**4000-POUND**  
**LIFTING CAPACITY**



**WALKER** *Leads in* **LIFTING EQUIPMENT**

# *new concept in lifting equipment!*

## THE FIRST COMPLETELY SELF-POWERED, PORTABLE HYDRAULIC, ONE-END LIFT

● Here's a revolutionary new development in automotive lifting equipment. Never before have you had a single piece of equipment with such wide utility.

The new Walker No. 76 saves time, saves space, increases shop efficiency. It serves all departments—it's for all types of under-car service—it brings new safety, new convenience, improved working conditions into every shop.

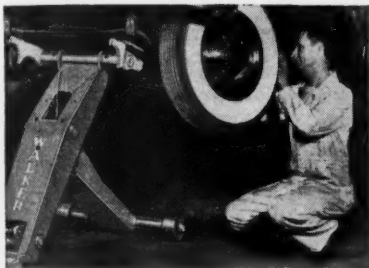
No. 76 is fully self-powered by a great new "Synchro-Lock" hydraulic unit. You can move it to any part of the building or to another building. You can raise either front or rear end with ease. You have an entirely new range of under-car working heights—convenient, fatigue-free working heights. You can use it as

an extra lift for many operations where a complete lift installation would be impractical or unnecessarily expensive.

Walker No. 76 is, truly, the safest thing on wheels. Its "Sure-Grip" universal lifting arms . . . its "Hydraulic Boom" action . . . and its many other exclusive Walker engineering features provide greater utility, greater safety, greater strength than any other movable lifting equipment.

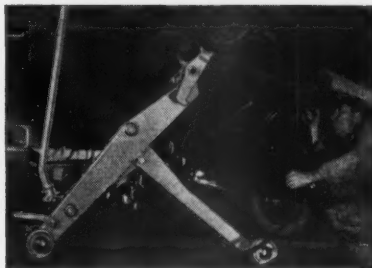
No. 76 is the beginning of a new classification in automotive lifting equipment—an opportunity for you to change obsolete shop practices—an opportunity for a completely modern, completely efficient service shop. Ask your Walker Jobber.

## THE MOST IMPORTANT DEVELOPMENT SINCE JACKS ON WHEELS



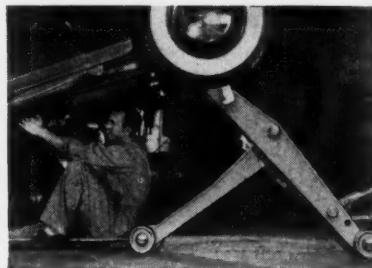
### NEW "Fatigue-Free" Working Height Improves Mechanic Productivity

Uncomfortable, inefficient, flat-on-your-back creeper days are over. Now you can raise the "job" to a maximum height of 46 1/2"—almost four feet—bringing a new freedom of working conditions to a wide range of service jobs.



### NEW "Pyramid" Stability Provides Safe, Rigid Working Conditions

The load rests as though it were on the peak of a pyramid, with a base of 32" x 46". Strong, sure-grip lifting arms reach out 23 1/2"—to prevent side-sway, to hold the load rigidly, securely, positively, beyond the center-balance point.



### NEW "Synchro-Lock" Safety Assures Positive Protection at All Times

Hydraulic unit automatically synchronizes a positive mechanical safety lock with its own hydraulic operation—providing complete protection of the load and the operator at all times. Adequate margins of safety are engineered into the sturdy chassis and lifting boom.

ANOTHER  
WALKER  
SERVICE-  
SPEEDER!

## SENSATIONAL NEW AUTOMATIC TRANSMISSION JACK WALKER **UNI-CRADLE** NO. 44

The new Walker UNI-CRADLE combines all of the movements necessary to service all automatic transmissions, including Chevrolet "Power-glide." It's precision engineered in every detail for service floor operation and makes automatic transmission service a practical, safe, one-man job.

No handling of the transmission itself is necessary, eliminating possible damage. Actual service tests show amazing savings in time and labor with Walker UNI-CRADLE.

- "AXIS-CENTER" ROTATION  
Accurate, more positive alignment
- "BOMB-SIGHT" CONTROLS  
Permits close tolerance "inching" into position
- 92° TILTING ARC  
Greater ease in removal and installation
- "ALL-TRANSMISSION" CRADLE  
Makes servicing faster, safer, easier



(PATENT APPLIED FOR)

WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WISCONSIN

Makers of Walker Jacks, Exhaust Silencers, Oil Filters, Electric Lifts



## Pop Hits A Miss . . . . Continued from Page 78

be a crack in there somewhere." He disconnected the wires to the cap and carried it over to the light where he could see it better, there was no evidence of any crack in the cap. He stood for a moment with the cap in his hands, apparently gazing out the window but actually thinking over every possibility. At length he walked back to the car

and jerked off the rotor. Then he walked over to the window again, held it up to the light and examined it carefully. Through the center of the rotor, you could see a fine crack.

"Tommy," he said, "would you get me a replacement rotor for this 1949 Ford?"

Tommy promptly disappeared in-

to the stock room to get it.

"May I see that rotor?" said Mehitabel. "Seems odd that would be the cause of the trouble, and my brother couldn't get it."

"Not at all," Pop explained. "It's not a common occurrence. The things which your brother did, with the exception of replacing points, were the normal procedure which should be followed with a car which had a skip in acceleration. Since I've known him for a good many years, and know that he is a good painstaking workman, I thought it would probably be some rather odd thing which he might not know about. In other words, my dear girl, I was going on my experience as well as his skill." Pop grinned and Mehitabel smiled back.

"Well," said Mehitabel. "Experience certainly pays off, as we oldsters have learned. Doesn't it Pop? I suppose that the actual cause of the skip would be that the spark could jump from the center high tension lead into the distributor shaft. Is that not right?"

Larry looked at her blinking in surprise.

"Yes," said Pop, "the words aren't mine but the thought is exactly similar."

Tommy slipped the new rotor in place, replaced the distributor cap and once more Mehitabel put forth for a road test.

"I'm sure that's the trouble," Pop remarked to Larry and

(Continued on page 88)

# CAN'T BE BEAT

## FOR HUNDREDS OF JOBS

Once you've used these famous SOLDER SEAL products you wouldn't be without them! For making so many hard jobs easy . . . for sealing vital parts surer . . . for saving time, fuss, and money throughout your shop . . . they're STANDARD EQUIPMENT. Ask your jobber about these sure-fire performers.

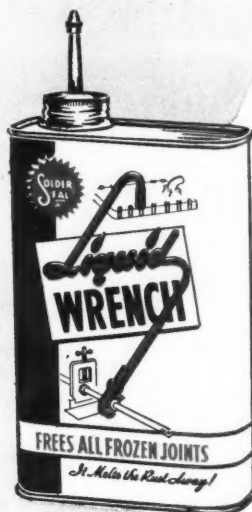
### TITSEAL

Famous for its unexcelled dependable performance wherever leak-proof, pressure-proof gasketing is required. There's a Tite-Seal blend for every job: No. 1, Sets hard. No. 2, Stays pliable. No. 3, Brush-on type.



### LIQUID WRENCH

Fast-acting super penetrant frees frozen parts on any equipment IN ANY CONDITION. Literally "melts away" rust, corrosion, scale, paint, varnish, carbon, or gum. Takes the hard work out of separating joints.



### IGNITION SEAL

Water-proofs the ignition system. Insulates wiring, coils, distributor, and magneto against power loss. Seals leaks around wind-shields, drip moldings, etc. Resists heat. Will not crack or peel. Easy to apply.



## RADIATOR SPECIALTY CO.

CHARLOTTE, NORTH CAROLINA

RADIATOR SPECIALTY COMPANY OF CANADA, LTD.



"I hope you won't feel I'm being nosey if I inquire if you're employed here."

CHECK YOUR FILTER WHEN YOU CHECK YOUR OIL



# WHAT DOES SS-24 STAND FOR ?

Wherever it Stands-Beside the Pump,  
at the Grease Rack or in the Store-  
SS-24 Stands for-

# SPEEDIER SELLING!

## SS-24

Comes complete in shipping carton with stock of 24 WIX HEVI-DUTY Cartridges. The Display Stand is yours ABSOLUTELY FREE of extra cost. Here's the stock:

| No. | Cartridge | Services or Replaces            |
|-----|-----------|---------------------------------|
| 10  | PC-1-F    | Fram C-4, C-4P2                 |
| 1   | PC-1-A    | AC L-11                         |
| 2   | PC-4-F    | '52-6 cyl. Ford; '52 Lincoln    |
| 2   | PC-10     | Fram C-3, C-3P2                 |
| 4   | PC-80-N   | Puro., Atlas, Mopar P-70, PN-15 |
| 2   | PC-100    | AC C-115, Puro. P-51            |
| 1   | PC-62-N   | Chrysler Full Flow              |
| 1   | PC-127    | Buick Full Flow                 |
| 1   | PC-122    | Olds. Full Flow                 |

### PLUS

Attractive 24 Cartridge Display Rack — List Price Sheet — Dealer Cost Sheet — Dayglo Window Sign — Combination Inventory and Identification Chart.

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Remind 'em . . . Serve 'em . . . Sell 'em! Don't forget . . . few of your customers drive in with oil filters on their minds, but most of them need filter cartridges! SS-24 reminds them because it's right up front — handy to service them. So, it's a cinch to sell them.

SS-24 stands for everything to speed up sales. With its stock of 24 of the fastest-moving WIX HEVI-DUTY Filter Cartridges, you have coverage for all popular cars on the road. You have a handsome, lightweight, easy-to-move display . . . a small investment . . . AND — genuine WIX HEVI-DUTY Cartridges, engineered to outperform on today's heavy-duty oils. Here's a combination with SPEEDIER SELLING written all over it!

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# wix

TRADEMARK REG.

## OIL FILTERS CARTRIDGES

WIX ACCESSORIES CORPORATION · GASTONIA, N. C.  
IN CANADA: WIX ACCESSORIES CORP., LTD., TORONTO, ONTARIO

## Pop Hits A Miss . . . . Continued from Page 86

Tommy. "It was pretty nearly a lucky shot on my part but it paid off. I'll bet we have a new customer from now on."

Larry groaned. "For eight solid years I lived with that woman breathing down my neck and now she comes back to haunt me again. But," he said philosophically, "it's not such a bad haunting, she's a

pretty good natured character after all."

"I wish she wouldn't drive so fast," Tommy added. "She's too old to push a car around the way she does."

"Maybe some day she'll learn. Right now, however," Pop said, "all I hope is that we've taken the skip out of the engine."

When Mehitabel pulled back in front of the garage, the look on her face was not one of a thoroughly pleased customer. She stepped slowly from the car and closed the door gently. She came inside and faced Pop, much like a small girl standing before the school principal.

"Pop," she said. "I misjudged the coefficient of friction between rubber and wet asphalt. Do you do body and fender work here, too? I seem to have crumpled a fender."

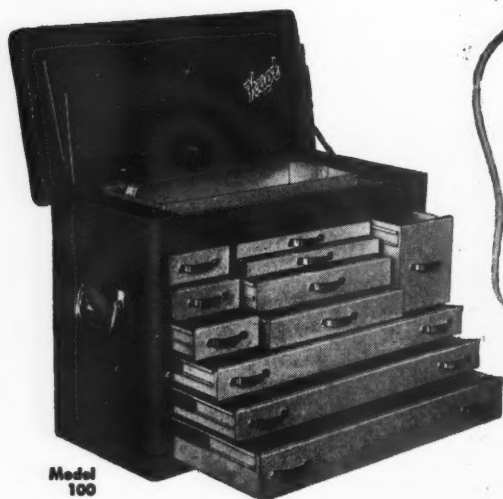
Pop hid a smile behind his broad hand. "Yes, Miss Francis," he said gravely, "I think we can take the dent out of your fender. But don't take it so hard," he added. "After all it's no criminal offense to dent a fender."

"Of course not," burst in Larry. "Reminds me of the story of the prisoner who was about to be taken to the electric chair."

"Have you any last wish" the warden asked him.

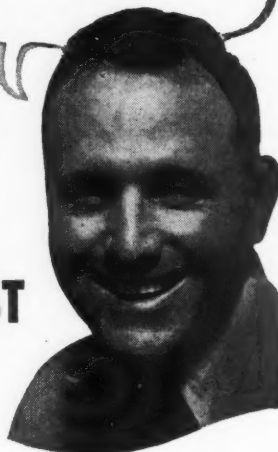
"Yes," said the prisoner. "I'd like to offer my chair to a lady."

Sometime later, Larry remarked to Tommy, "Gee, Miss Francis, sure was upset about denting her fender. Why she didn't even laugh at my joke."



Model 100

Just like a  
**MECHANIC'S  
RIGHT HAND  
MAN**



### HUOT deluxe TOOL CHEST

Lots of drawers . . . plenty of usable tool space . . . drawers are lined for the protection of your precision gauges and tools. Will even take care of a husky  $\frac{1}{4}$ " Portable Hand Drill—in extra heavy drawers built to stand rough use. All hardware is plated for long life. Two tone blue and gray oil-resistant Hammerlin Enamel . . . just wipe it off to keep it clean. If you plan to move the chest around, it fits nicely on top of a Huot Porta-Cab. Ask your jobber—or send us his name when writing for literature.

18 $\frac{3}{4}$ "x26"x12"  
11 STURDY DRAWERS  
LOTS OF USABLE TOOL SPACE  
TOTE TRAY INCLUDED

#### No. 250 PORTA-CAB

The Porta-Cab is a portable tool cabinet with a built-in chest, combining all the desirable features of a large tool chest and cabinet in one sturdy mobile unit. Model 100, above, can mount on top.

HUOT is pronounced "HEW-OT."



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Please send bulletin on Tool Chests and Cabinets.

NAME .....

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NAME AND ADDRESS  
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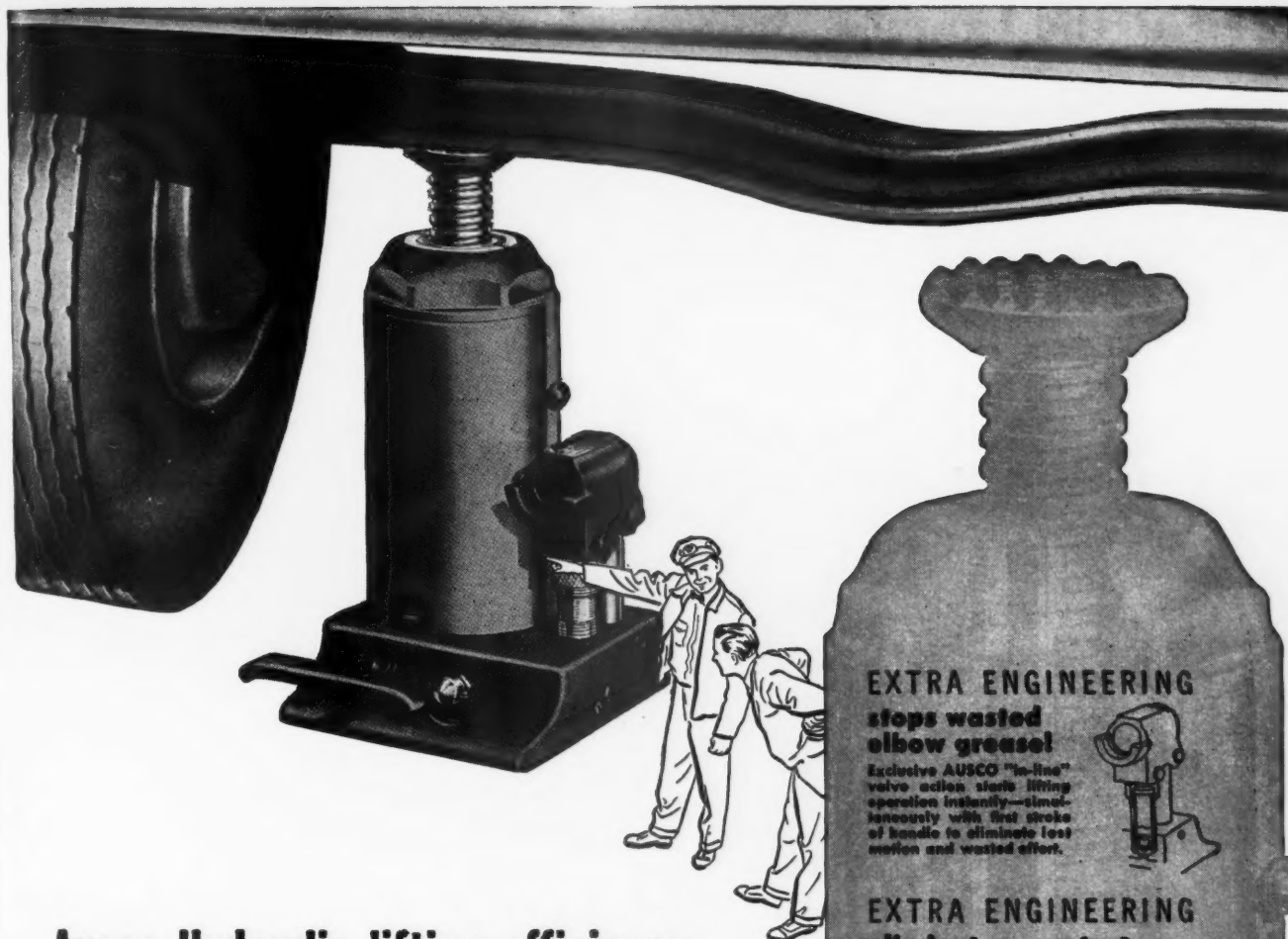
### Consumer Car Survey Made by Seattle Paper

The 1952 Consumer Analysis of the Seattle *Times* showed that more car owners take their cars to independent repair shops than any place else for repairs.

42.4 per cent of car owners in the Seattle survey take their cars to independent repair shops, 36.8 per cent take them to the dealer where the car was bought, 10.1 per cent to another new car dealer, 6.4 per cent to a filling station, and 4.3 per cent do their own repairing.

For minor repairs, the filling station is most popular with 40 per cent of the automobile owners surveyed taking their cars there. 28.3 per cent took them to separate repair shops, 19.8 per cent to the dealer where the car was bought, 6.1 per cent did their own repairing, and 5.8 per cent took them to another new car dealer.





## Ausco Hydraulic lifting efficiency is more than skin-deep...

it stems from **EXTRA ENGINEERING FEATURES** through-and-through. As you know, merely looking at the outside of a hydraulic jack won't tell you if it is heavy-duty caliber through-and-through. Ausco, with 25 years of hydraulic engineering experience, KNOWS that it takes **EXTRA ENGINEERING FEATURES** on the *inside* to make a jack as tough and rugged as it looks from the outside. There are over 20 special design features built into the **AUSCO Hydraulic Axle Jack** to make it easier to operate and less costly to maintain, even under the most strenuous service conditions. Here are some typical examples of the type of **EXTRA ENGINEERING FEATURES** you'll find inside every **AUSCO Hydraulic Axle Jack**:

# AUSCO

## hydraulic axle jack

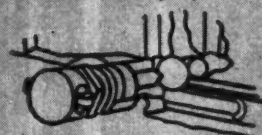
### EXTRA ENGINEERING stops wasted elbow grease!

Exclusive AUSCO "in-line" valve action starts lifting operation instantly—simultaneously with first stroke of handle to eliminate lost motion and wasted effort.



### EXTRA ENGINEERING eliminates greatest hydraulic operating trouble!

Exclusive AUSCO straight-line oil flow eliminates dirt-trapping pockets; makes it easier to flush pump clean.



### EXTRA ENGINEERING means greater lifting strength!

AUSCO Jacks have larger-diameter extension screw, threaded by latest method which produces heavier shank diameter for greater strength and longer service life.



### EXTRA ENGINEERING makes it easier to lower the load!

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1½, 3, 5, 8, 12 & 20-Ton Capacities

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for 40 years, one of the world's largest manufacturers of original equipment and replacement hydraulic and mechanical jacks.

B-8652R

## Measuring Frames . . . Continued from Page 61

leveled, measure the distance from each of the rear frame horns to the floor. This distance should be equal. If it is not—the frame is twisted.

NOTE: Variations of  $\frac{1}{2}$  inch at the rear frame horn are generally considered to be passable. In fact, many shops will O.K. as much as 1 inch twist.

Where twist is found the frame should be examined immediately for loose cross members, loose or broken welds or rivets.

NOTE: A slight twist can be caused by improper shimming at the body mounting bolts, particularly on cars where the body mounting bolts are located close to the rigid vertical body panels.

A quick check can be made to determine if the body is twisting the frame by loosening the back mounting bolts. If this causes the frame to assume correct position, reshim the body bolts before proceeding.

When the frame is leveled, refer to the frame dimension charts which are to be found in CHILTON's BODY AND FRAME MANUAL. Carefully note the points on the frame to which the measurements are taken. These may be bumper mounting holes, outrigger mounting holes etc.

Now take a plumb bob and suspend it from the first check point, being careful to hold the cord at the CENTER of the check point with the plumb bob held just clear of the floor. Make a dot under the point of the plumb bob with a piece of chalk. Recheck to be sure the chalk dot is nicely centered under the point of the plumb bob.

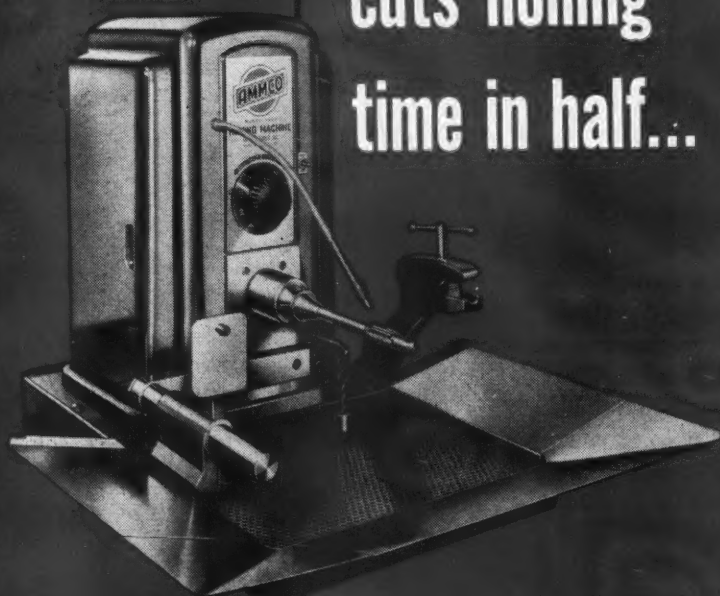
In the same manner, project all the check points to the floor, making a chalk dot directly under each point. After all points have been extended to the floor, remove the car.

Take a well chalked cord and stretch it from each point on one side of the car to the corresponding point on the opposite side.

Snap the chalked cord against the floor leaving a straight line connecting each pair of check points.

Measure, in a straight line, from one line to the next noting the exact measurement on the floor so that after all dimensions are noted the resulting diagram can be studied at leisure and compared with the frame dimension diagram in the Body and Frame Manual.

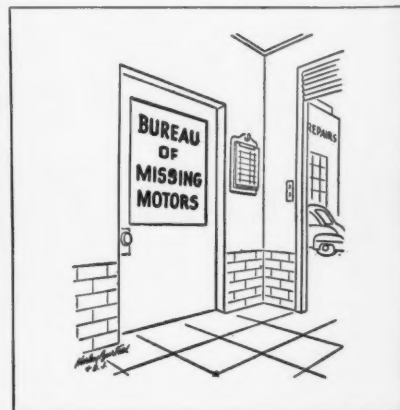
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Mr. Frank Hardin, President of Hardin Motor Co., Inc., West Palm Beach, Fla., reports: "I've been using COMMERCIAL CREDIT PLAN for 28 years and they have always taken good care of my needs, particularly during the war years. This plan is the means of selling our cars . . . otherwise people would not be financially able to buy. I especially like the whole-sale plan."



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over \$125,000,000 . . . offices in principal cities of the United States and Canada.

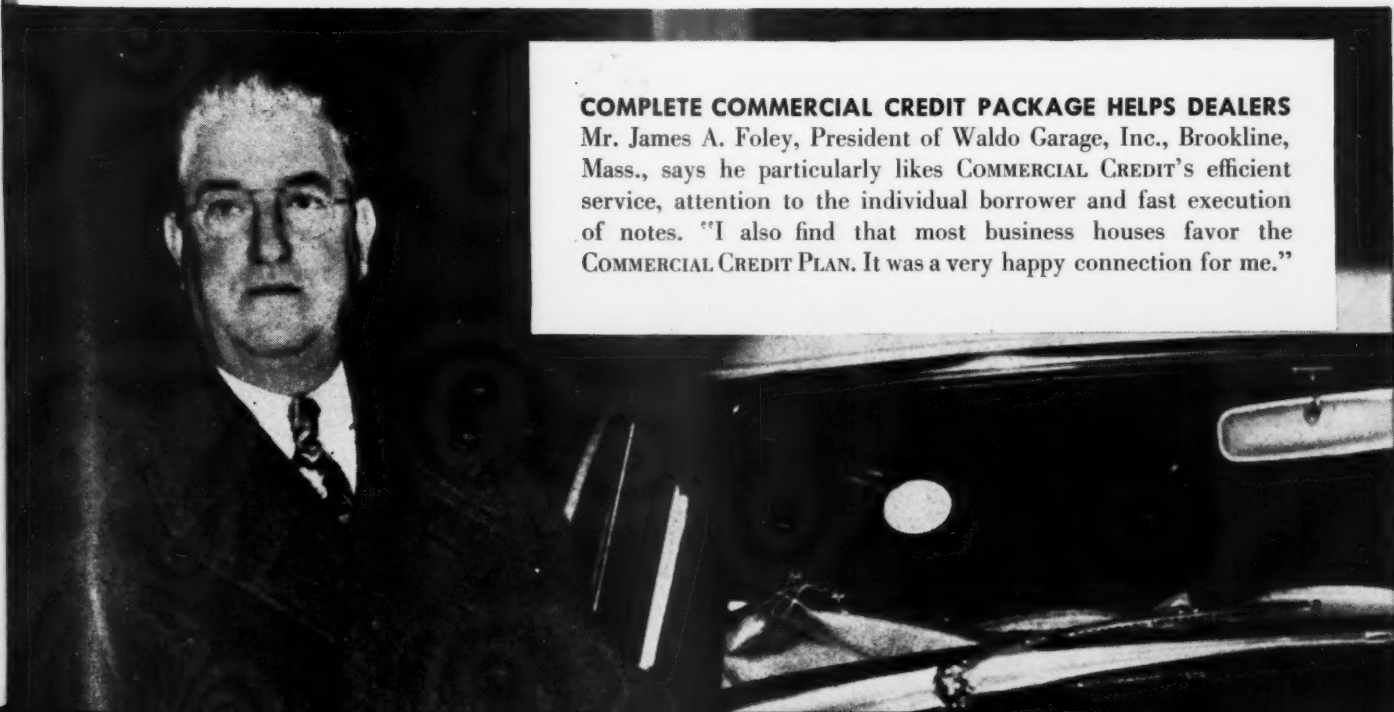


**CAR REPAIR PLAN BRINGS PROFIT-  
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—This plan, available to franchised COMMERCIAL CREDIT dealers only, helps offset decreased factory deliveries by bringing in *bigger* repair jobs and *more* of them . . . allowing the customer to pay over a period of many months. Dealers profit from COMMERCIAL CREDIT's Car Insurance, for our policy is to recommend for repair work the dealer from whom the car was purchased.

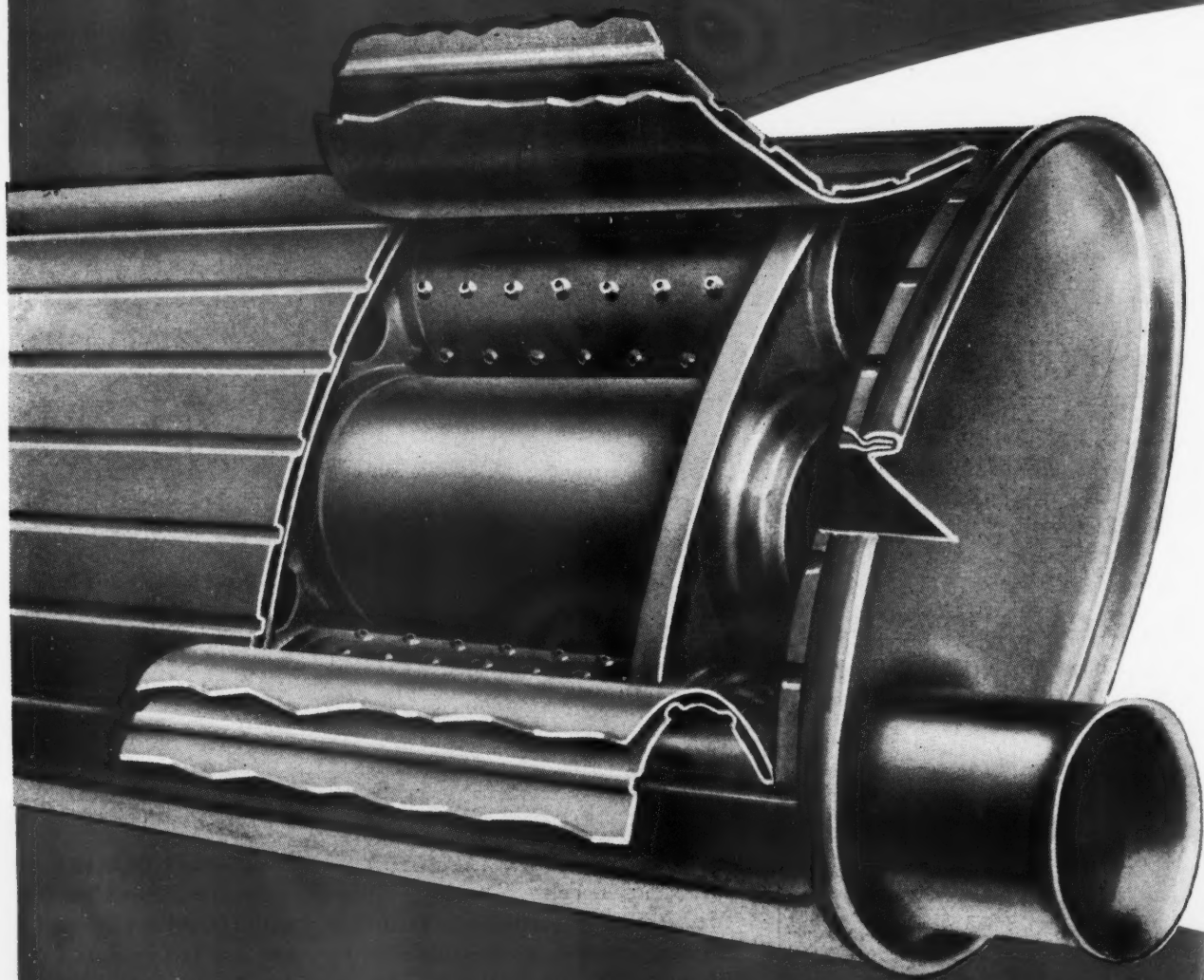
**COMPLETE COMMERCIAL CREDIT PACKAGE HELPS DEALERS**

Mr. James A. Foley, President of Waldo Garage, Inc., Brookline, Mass., says he particularly likes COMMERCIAL CREDIT's efficient service, attention to the individual borrower and fast execution of notes. "I also find that most business houses favor the COMMERCIAL CREDIT PLAN. It was a very happy connection for me."





You See the Outside of  
But You Buy the



**AP**

*Mileage Getting*

# the Muffler Inside

AP's sensational new muffler which introduces "fenced-in" silencing—an entirely new principle of shell construction—is the latest of a long series of AP "firsts" in muffler improvements. This simple but startlingly effective method of silencing today's high compression engines eliminates asbestos-wrapped makeshifts. It is another in a long list of AP features such as deeper crimp-locked seams, stronger spun heads, low and high frequency tuning chambers, 26 gauge liners, 22 gauge shells, extruded holes to resist clogging, electrically welded construction, 16 gauge outer heads on ovals.

Ask your jobber for details of AP's "fenced-in" silencing.

**THE AP PARTS CORPORATION**

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Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123



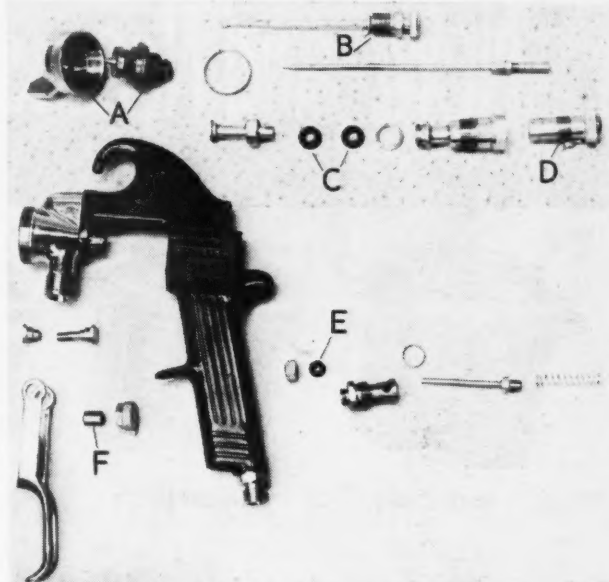
# Mufflers

## Respect Your Spray Gun

Continued from Page 68

into the air stream. The nozzle which leads from the cup (or the fluid nozzle) is surrounded by a circular channel of air which breaks up or atomizes the fluid into fine particles. This air-fluid mixture is ejected from the gun in a circular pattern.

The volume of air passing through the gun is varied by a pressure regulator between the gun and the compressor tank. The gun is turned on and off by a trigger actuated valve. When the trigger is pulled part way back, the air passes through the gun but the needle valve in the fluid nozzle is still closed, thus preventing the paint from being drawn from the cup. When the trigger is pulled all the way back, the fluid needle is backed off its seat and the air draws up the paint. An adjustment on the gun pro-



- (a) Fluid nozzle and spray head—soak in thinner and blow out with air.
- (b) Air control packing (inside)—apply light oil
- (c) Fluid needle wiper packings—apply light oil
- (d) Fluid adjusting screw—apply light oil
- (e) Air valve packing—apply light oil
- (f) Fluid needle packing—apply light oil

vides for changing the amount of paint which is drawn into the air stream. This is accomplished by restricting the distance which the fluid needle moves off its seat. As the fluid adjustment is turned out, the fluid needle is able to move further off its seat and a larger quantity of liquid enters the air stream.

So far we have only a round patterns of fluid-air mixture coming from the gun. In order to vary the spray pattern from round to fan shape, air is directed into the mixture from an angle from each side. The air from the two side ports is controlled from an adjustment at the back of the gun. This control permits setting the width of the spray pattern from round to a narrow ellipse. Size of the pattern, of course, depends upon the quantity of air and paint being used.

**Troubleshooting**—When trouble develops with the spray gun, work stops. Time is valuable, so it is

(Continued on page 94)

## Spray Gun . . . . . Continued from Page 93

important to be able to diagnose quickly and accurately. Defective spray patterns as shown on page 68, are fairly common since they are generally caused by foreign matter in the ports. "A and B" in the illustration are normal round and fan-shaped patterns. In "C and D" the patterns are heavy at the top or bottom, caused by one

of the following: (1) foreign matter on the air cap seat or fluid needle seat; (2) an obstruction on top or bottom of the fluid tip, preventing a complete circular column of air from passing over the tip; (3) a loose air cap; (4) one port in the air cap clogged.

When the pattern is off to one side the cause may be: (1) one side

port in the air cap clogged; (2) an obstruction on the side of the fluid tip; (3) on air caps with twin jets, one jet clogged.

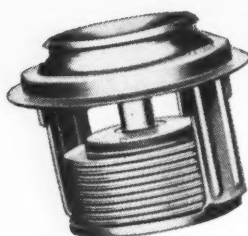
On the conditions shown in "C, D, E, and F," the cause can be narrowed down to air cap or fluid tip obstructions by turning the air cap 180 degrees and spraying another pattern. If the pattern reverses, the obstruction is in the air cap. If not, it is in the fluid tip. Soak the air cap and fluid tip in a rich thinner to loosen hardened paint, use a soft paint brush, and blow them out with air. Examine the ports and fluid tip for burrs and paint which may still be adhering. Never use wire or any other metal device for cleaning out the ports. If it is necessary to force anything into the holes, use nothing harder than a bristle from a broom or a wooden tooth pick. But be careful not to break off a piece of wood in the hole, as it can be very difficult to remove.

In Figure G is a heavy center pattern which might also be somewhat "spattered." This is caused by: (1) low atomizing pressure; (2) insufficient air from the side ports (either both are partially clogged or adjustment is too low); (3) or too heavy a paint viscosity.

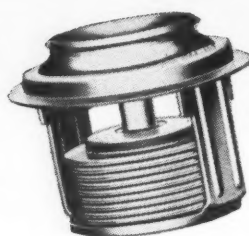
A "split" pattern as shown in "H" is usually caused by: (1) too much pressure from the side ports with a thin material; (2) too low an atomizing pressure (make adjustments as necessary to make these corrections. Remember that

(Continued on page 96)

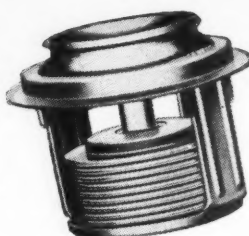
# New!-and Necessary!



No. 19 (160°)



No. 319 (170°)



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## 3 temperature settings for '51-'52 Fords!

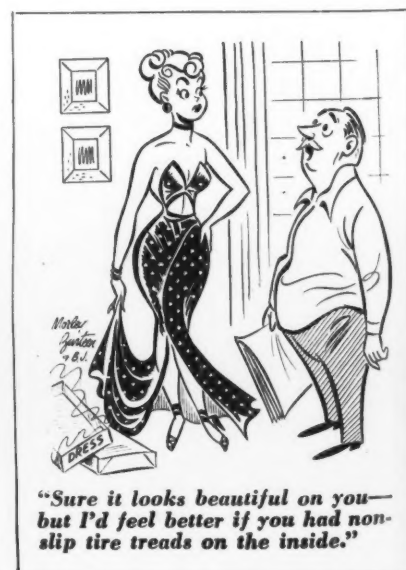
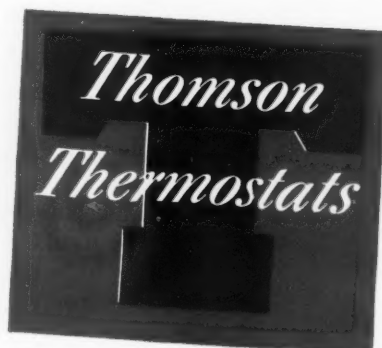
For proper fit and top performance, 1951-52 Fords require a special thermostat, different from any previous stat. And for service on these popular cars and trucks, *only Thomson* offers you a stat in *three* temperature settings . . . No. 19 for summer use, No. 319 for use with alcohol, No. 119 for use with permanent anti-freeze. For Fords—for cars

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OIL AND GREASE SEALS



Approved original equipment for all cars, trucks, busses and tractors.

## Spray Gun . . . . . Continued from Page 94

increasing the pressure of the fluid air mixture to eliminate a split spray will mean more paint coming from the gun and consequently the gun will have to be handled faster.)

There are ten possible causes of a fluttering, or jerky spray: (1) a loose fluid valve packing nut; (2) dried-out fluid valve packing; (3)

loose fluid tip; (4) damaged fluid tip seat; (5) passages in the fluid tip obstructed; (6) paint coupling loose; (7) air vent in the paint cup clogged; (8) fluid tube in the paint cup loose or damaged; (9) insufficient material in cup; (10) cup tipped too far.

There are several other troubles which may be tied in directly with

the maintenance of the gun. When there is leakage of paint from the fluid needle packing nut, look for a loose packing nut or a dry packing. If the nut seems to be tight, remove and oil the packing with light oil and replace it. This will soften the packing enough to make a good seal, then tighten the packing nut to prevent leakage but not so tight as to cause it to restrict the fluid needle.

When air leaks from the front of the gun, it indicates an air valve which is not seating properly due to: (1) a broken air valve spray; (2) dirt on the valve or seat; (3) a worn or damaged valve or seat; (4) a sticking air valve stem; (5) a bent valve stem; or (6) the air valve packing nut too tight. Clean and free up the air valve mechanism as necessary to assure its proper seating.

When fluid leaks from the front of the gun, the fluid needle is not



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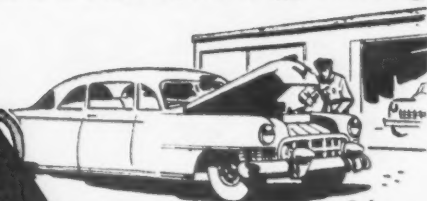
seating properly. This may be caused by: (1) the fluid tip or needle being worn or damaged; (2) dirt lodged in the fluid tip; (3) fluid needle spring broken; (4) fluid needle packing nut too tight; (5) wrong needle size.

Fluid leakage can be eliminated by cleaning, freeing up the fluid needle mechanism and, if necessary parts.

**Cleaning and Maintenance**—To clean the gun, remove the cup. Cover the air cap with a cloth and pull the trigger. Covering the hole causes the air pressure to blow

(Continued on page 100)

# The Finest Timing Instrument Ever Produced



EDELMANN T-131

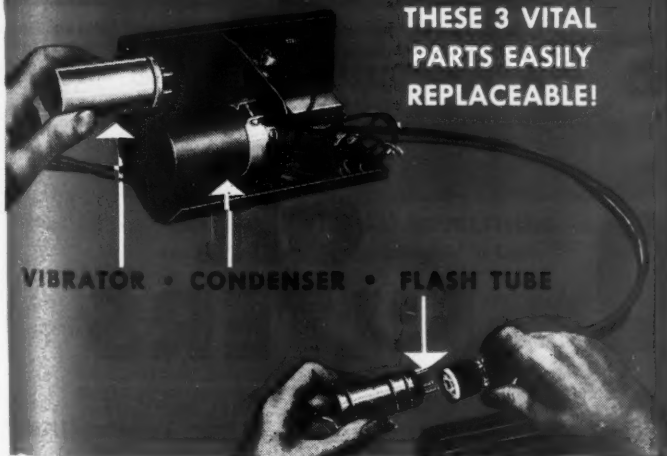
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THE ONLY TIMER SPECIALLY DESIGNED  
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Compact, built-in power amplifier operates direct from car battery . . . throws a brilliant beam of concentrated light. Handy "Flash Tube" is protected by sturdy rubber housing, yet small enough to reach in "tight corners."

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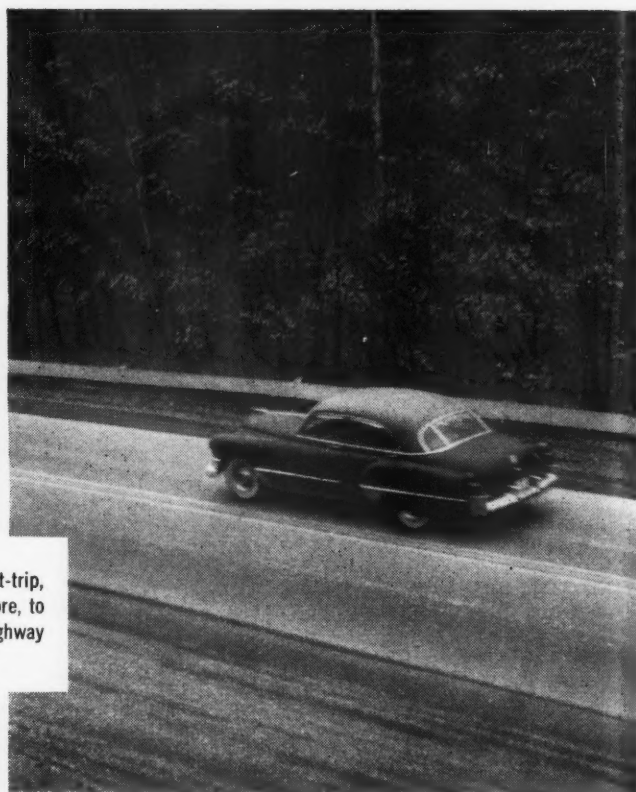


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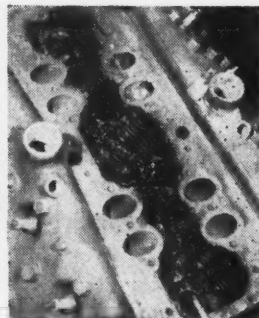
# 9 out of 10 MOTORISTS are



"MR. AVERAGE" is a starting, stopping, short-trip, slow-speed driver. He drives to work, to the store, to the theater. "Mr. Average"—not the fast, open-highway driver—is hardest of all on his engine.



"MR. AVERAGE" is a "Cold-Engine" Driver. Summer and winter alike his crankcase seldom really warms up. His oil is subject to excessive contamination. From the outside, dust and dirt enter through the air-intake. But more important—low speed, stop-and-start driving increases "crankcase condensation" from combustion "blow-by," creating soot, lead compounds and water . . . the most dangerous of all oil contaminants—resulting in more engine-choking sludge and more wear-producing acids.



"COLD-ENGINE" DRIVING chokes up the engine with sludge! "Cold-Engine" water-in-the-oil creates a mayonnaise-like condition which is the starting point of sludge, source of most engine operating difficulties.



"COLD-ENGINE" DRIVING causes excessive acid wear! "Cold-engine" combustion "blow-by" contains highly acidic fumes which condense in the presence of moisture and create acids—major cause of engine wear.

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WITH PATENTED *Laminar* CONSTRUCTION

# "COLD-ENGINE" DRIVERS

...victims of

## Excessive Oil Contamination!

**More than any other type of driver, they need Walker Oil Filters  
—the oil filter designed to best protect the oil and the engine  
under the most severe of all operating conditions.**

● Contrary to popular opinion, it is not high-speed, long-trip driving that is hardest on engines and oil. *It is the slow speed...stop-and-start driving pattern of the average motorist.* Slow, intermittent operation leads to excessive oil contamination from combustion "blow-by" ... excessive contamination from soot and lead compounds. But even more dangerous, this kind of driving results in excessive *crankcase moisture*, the basic source of sludge formations and the source of corrosive wear-producing acids.

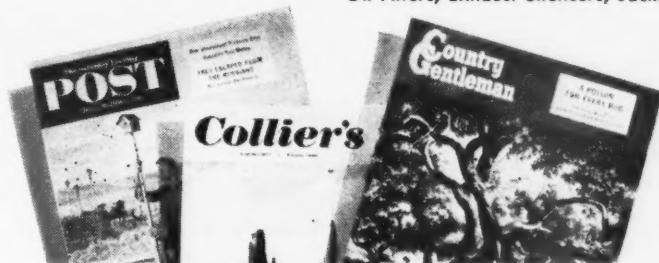
More than any other type of operator, the "Cold-Engine" driver needs the *total* oil protection of a Walker Oil Filter ... for Walker Oil Filters are designed to remove not only

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WALKER NATIONAL ADVERTISING regularly reaches millions of "Cold-Engine" Drivers.

✓ check wear from dust, dirt and abrasives

✓ check sludge damage and acid wear caused by "crankcase moisture"



## Spray Gun . . . . . Continued from Page 96

through the only open passage—back down through the fluid tube, thus cleaning all parts of the paint. Empty the cup of paint and fill it partially with thinner. Operate the gun in the usual way for about fifteen seconds to thoroughly flush out the passages with thinner. Work the trigger back and forth while spraying the thinner to flush out all the paint around

the needle.

Remove the air cap and clean the fluid tip with solvent. Soak the air cap in thinner to assure complete dissolving of all paint. Then blow it out with air.

Never submerge the entire gun in thinner. This will wash away lubrication and dry out the packings. Also, avoid the use of caustic alkaline solution for cleaning

spray guns as they destroy aluminum alloys used in gun bodies and parts.

Lubrication of the parts requiring this service is shown on page 94. The important thing to remember is softening the fluid needle packing occasionally with oil, as well as the air valve packing. The fluid needle spring should occasionally be coated with grease or petroleum jelly. Make sure that moving parts have a drop of light oil for freedom of movement. Do not oil excessively.

Proper care and cleaning of the spray gun will assure its long life and satisfactory operation for many years. The main points to remember are: (1) keep it clean; (2) lubricate it properly at regular intervals; (3) never use metallic objects to clean out ports.



*Barrett Says:*

### WHY BUY TWO WHEN ONE WILL DO?

#### A New MACHINE THAT Completely SERVICES 8" to 16" SHOES



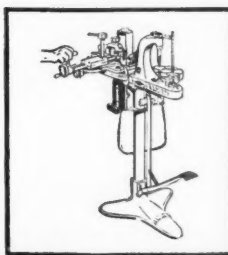
Why pay 50% to 100% more for two machines to reline and radius grind brake shoes? This heavy duty machine does the work of both in less space, with fewer steps, and at lower cost. All controls for 5 essential operations conveniently located for fast, easy use.

#### PRECISION GRINDS SHOES

Grinding unit engineered for speed and accuracy pre-fits 8 shoes to any predetermined size in less than 4 minutes. Shoe Clamp handles 8" to 16" shoes up to 4" wide. No adapters to change. Grinds standard size, oversize or undersize for cam effect. Chamfers with shoe in clamp.

*Ask Your Jobber or Write Direct*

**BARRETT EQUIPMENT CO.** The World's Finest Brake Service Equipment  
21st & Cass Ave. • St. Louis 6, Mo.



Use of this compact grinding and relining unit takes less space — saves steps . . . saves time . . . saves money.



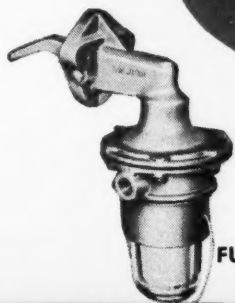
"We'd be lost without our service manager."

#### Ford Service Training Units Tour the Country

Ford has put into service new mobile training units for providing service training information to dealers in the field, particularly in outlying areas. The units are Ford Ranchwagons equipped with a complete complement of tools, equipment and demonstration units such as automatic transmissions, engines, and axle assemblies. Other training aids, such as slide films, charts, and training pamphlets also are included. The mobile units are located at the Service Dept. in each of the 33 Ford sales districts. Service instructors are sent out with the units to dealerships requesting training aid.



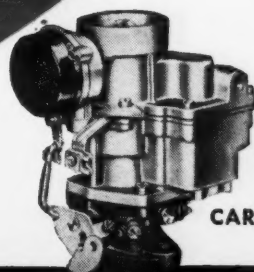
# THE CARTER LIFELINE



FUEL PUMP



FUEL FILTER



CARBURETOR

## THE BIG 3 FOR VOLUME AND PROFIT!

With more and more postwar cars reaching service age, now, more than ever, the word CARTER means extra sales and profits to garages, service shops and dealers.

See your nearest Carter distributor or jobber and stock up with this fast-moving, profit-building line.

**CARTER CARBURETOR CORPORATION**

St. Louis 7, Missouri

Division of American Car and Foundry Company



*Nationally  
Advertised  
with the Biggest  
Campaign in  
Carter History!*



## Timing Valves . . . . . Continued from Page 39

keys are in that position. Slide both sprockets on together on their respective shafts, with the chain mounted over both sprockets. Secure both gears to the shaft with the bolts provided and recheck the setting. Turn the crankshaft two complete revolutions or until the chain again assumes the regular position. In this position, recheck

to see if there are 11 pins in the timing chain between the mark on the cam and the mark on the crankshaft sprocket, counting the pin at each mark.

### Cadillac

The chain and sprocket assembly used on L-head models since 1940 is such that, unless deliberately dis-

turbed, the valve timing will remain as set by the factory except when the chain and sprockets are badly worn or damaged. Remove the worn chain and sprockets from the car and arrange the new chain and sprockets on the bench so that the timing marks are in line between the center holes of the gears.

Retaining this position, set the cam and crankshaft so that the keys on each shaft are in the same position as the key-ways in the gears. Place both gears on their respective shafts at the same time with the chain in place, being careful not to disturb the timing mark locations. The key on each shaft should be aligned very carefully with the key-way on the gear so that when the gears are being pressed on, no difficulty will be encountered in having the key enter the gear. Force both gears on the shaft at the same time with the chain in place and, after securing them, rotate the crankshaft two full revolutions until the timing mark again assumes a checking position. The mark on the camshaft and the mark on the crankshaft sprocket should be nearest each other and in line between the shaft centers. If the above procedures are followed the camshaft will be timed correctly, regardless of which piston is at top center.

It may be necessary to retime the ignition since it is possible to have the distributor rotor 180 degrees out of place. A special tool is provided to place the camshaft gear. This tool forces the sprocket in place without pushing the camshaft towards the rear of the car, as this might damage the oil pump and distributor gears at the rear.

On the 1949 to 1952 models with overhead valves it is necessary to remove the oil pan in order to remove the crankshaft sprockets. If the timing chain or sprockets are being replaced because they are loose or noisy. Turn the crankshaft until No. 6 cylinder is in the firing position. With this cylinder in position, the marks on the cam and crankshaft sprockets will be found to be in line with each other between the shaft centers. This is done to avoid the necessity of having to reset the ignition timing.

(Continued on page 106)



## A nickel dam gives CLEVITE\* 77 longer life

THE Clevite 77 is a tri-metal engine bearing made especially for severe service conditions. Its long life is due in part to a nickel barrier — or dam — which maintains the corrosion resistance of the bearing surface layer. This nickel dam is an exclusive feature of Clevite 77 bearings — developed by CGB engineers and fully patented by the company, it cannot be duplicated.

Comparative results prove the Clevite 77 gives unequalled service life in engines subject to overloading, lugging, overspeeding and continuous heavy-duty operation. Truck and bus owners, race car drivers and contractors operating heavy off-highway equipment report the Clevite 77 gives superior service life and saves money because it reduces the down time of costly equipment.

Sold for replacement use under our Monmouth Brand, Clevite 77 bearings should be used only where engine manufacturers' specifications call for Clevite 77 — the bearing with the nickel dam.



Your Motor Dealer is a Good Man to Know!



\*The words Monmouth, Clevite and Micro are registered trade marks of The Cleveland Graphite Bronze Co.

THE CLEVELAND GRAPHITE BRONZE CO.  
Cleveland, Ohio

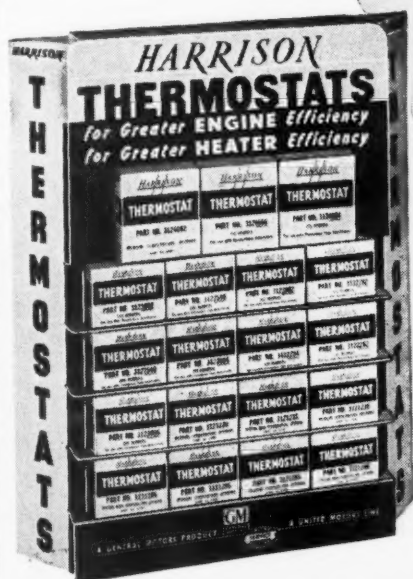
**CGB FIRSTS:** The development of continuous strip casting, 1929—thinwall babbitt lined steel-backed bushings, 1931—continuous casting of copper lead on steel strip, 1934—tri-metal bearings, 1938—Micro\* Bearings, 1939—Clevite 77, 1944—and others which have helped to revolutionize the lined bearing industry.

# IT'S EASY TO GET STARTED WITH

## HARRISON THERMOSTATS

**EVERY CAR OWNER  
A POTENTIAL CUSTOMER—**

Yes, every car owner is a potential customer because there is a Harrison thermostat for every car. The Harrison thermostat display assortment is designed to make it easy for you to get started in the profitable, year 'round thermostat business. It contains 19 Harrison thermostats that cover 90% of all popular applications. Complete application information is included.



### IT'S EASY TO GET STARTED WITH ANY OF THESE UNITED MOTORS LINES

**DELCO Batteries**  
**AC Gauges, Speedometers**  
**and Rebuilt Fuel Pumps**  
**SAGINAW Jacks**  
**MORaine Engine Bearings**  
**DELCO Radio Parts**  
**ROCHESTER Cigar Lighters**  
**HYATT Roller Bearings**  
**INLITE Brake Lining**  
**HARRISON Heaters**  
**GUIDE Lamps**  
**DELCO Clocks**  
**NEW DEPARTURE Ball Bearings**  
**DELCO Shock Absorbers**  
**DELCO-REMY Starting, Lighting & Ignition**  
**MORaine Gasoline Filters**  
**HARRISON Thermostats**  
**KLAXON Horns**  
**HARRISON Radiators**  
**ROCHESTER Carburetors**  
**DELCO Hydraulic Brakes**

### THE HARRISON MARKET IS BIG

Selling thermostats is an easy, profitable business . . . car owners know that the thermostat plays an important role in maintaining top engine performance in all seasons. Harrison thermostats are easy to sell because they are original equipment on more than half the cars on the road. Here is a huge, ready-made market for you!

### SELL TOP QUALITY AND PERFORMANCE

You can sell Harrison thermostats with confidence because Harrison thermostats are designed and built for long-lasting, trouble-free service. Rigorous continuing tests in the laboratory and at the famed General Motors proving grounds have proved the stamina and accuracy of Harrison thermostats and they are backed by thirty years of manufacturing quality products.

### GET STARTED WITH HARRISON NOW

The Harrison thermostat display assortment provides you with a low inventory way to a wide market coverage. Supply your customers' thermostat needs from this fast-moving display assortment. Contact your local Harrison wholesaler now.

### HARRISON THERMOSTATS

**A GENERAL MOTORS PRODUCT**  **UNITED SERVICE MOTORS** **A UNITED MOTORS LINE**

**DISTRIBUTED BY WHOLESALERS EVERYWHERE**



**NOW**

**"ANTI-FREEZE"**

**AT "ZERONE" and "ZEREX"**

REG. U.S. PAT. OFF.

REG. U.S. PAT. OFF.

# 1. anti-freeze week

DU PONT TELLS YOUR CUSTOMERS IT'S  
TO GET THEM IN FOR EARLY SERVICING



Remember last winter—sloshing around on wet driveways, freezing your fingers trying to handle a jam-up of irritated customers? Now you can change all that.

This year, Du Pont has a great new program to help you sell anti-freeze the easy way—and put more dollars in your pocket. Let's break

*Your "ZERONE" and "ZEREX" jobber has the story... See him TODAY!*

the first freeze jam-up with Anti-freeze Week. Starting October 6, powerful national ads like the 4-color spread above will convince your customers it's smart to get their cars winterized early—and to protect with a Du Pont anti-freeze.

It will all add up to more convenience and profits to you—better service for your customers.



**150th Anniversary**

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

# WEEK"

## DEALERS

A DU PONT PROGRAM TO  
INCREASE YOUR PROFITS ON  
ANTI-FREEZE, PARTS, CHEMICALS,  
AND WINTERIZING SERVICE

## 2. DU PONT FOLLOWS UP WITH POWERFUL COUNTRY-WIDE ADVERTISING TO SELL THEM "ZERONE" and "ZEREX"



**IN MAGAZINES**—Four-color spread in Saturday Evening Post! Four-color, full pages in Life and Collier's! Ads that promote the idea of Early Servicing through Anti-freeze Week—timed to remind your customers to beat the freeze! Followed up by hard-selling ads promoting "Zerone" and "Zerex."



**ON BILLBOARDS**—This season, not one, not two—but three boards will carry our sales message to your customers at key points along major traffic arteries.



**ON THE RADIO**—Reminder spots, timed to catch your customer's ear when he has the best chance to come in for Early Servicing.



**IN FARM PAPERS**—We're not overlooking the influential farm market, either. There's heavy advertising in important state farm papers where the best rural anti-freeze markets exist.

**ON TELEVISION**—Attention-getting, animated TV spots will hit home with "Anti-freeze Week" and "Zerone"- "Zerex" commercials.



**IN NEWSPAPERS**—Timely ads in a heavy nation-wide schedule reach deep into your market—they'll remind your customers to get "Zerone" or "Zerex" that very day!

*Plus this eye-catching  
point-of-sale material*

**DISPLAY BANNER**... weather-resistant, catches customer's eye right at point of sale.

**WINDOW STREAMERS**... to remind the customer he needs anti-freeze—Du Pont anti-freeze.

**PROTECTION CHART**... tells you how much anti-freeze is needed by every major car.

**A NEW IDEA**... weather-resistant "half cans" for fastening to pump or display window.

**AND A TIE-IN**... a big reproduction of the opening "Post" ad announcing Anti-freeze Week for tying in with the nation-wide program.

DU PONT "ZERONE" is a great money-saving anti-freeze value! Chemical rust inhibitor gives longer-lasting protection against rust and corrosion... Only \$1.50 a gallon!



DU PONT "ZEREX" is the outstanding all-winter anti-freeze. One shot lasts all winter in a properly operating cooling system. Formulated with a chemical inhibitor for longer, safer anti-rust and corrosion protection... Only \$3.75 per gallon.

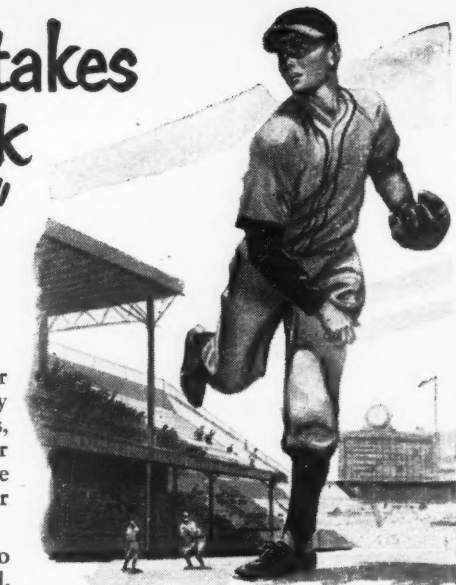
# "I've found it takes teamwork to win!"

... says Herb

A true story  
Reading time: 1 minute.

"As a pitcher for our high school and later for City College," Herb emphasizes, "I learned even a poor pitcher with good support can be better than the best pitcher with no support."

When Herb sold shoes to pay his way through school, he soon found teamwork paid off at the store just as it



did on the diamond . . . a good location, leaders to stimulate traffic, the right styles and values, good advertising helped him sell.

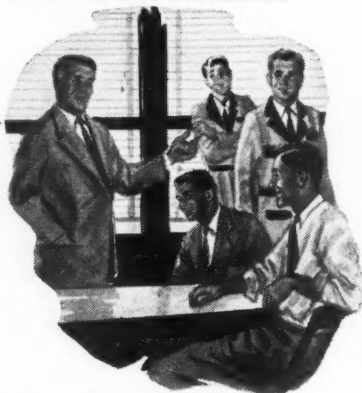
When he was only twenty-three his record for winning friends and selling shoes was so impressive a De Soto-dealer customer gave him a chance to sell cars.

"That was in '35 and the new car business was slow," Herb recalls in something of an understatement. "I don't think there is a sales approach I didn't try. My family and friends were helping as 'bird dogs.' I kept the telephone lines humming."



His terrific drive brought results. As top salesman, he was put in charge of sales. Later, made partner. Then came the chance to take over the whole business. His enthusiasm and proved ability won financial support for the undertaking. No big league manager ever selected his team more carefully or trained them more thoroughly . . . in sales, in the office, in the shop and on the lube racks. Every member of his team had one objective—to give the attention, service and value that would assure future sales.

"You can't let down," he says. "Last year's enthusiasm won't win this year's pennant. But this is a wonderful business for anyone who will keep an all-star team pulling together."



A booklet of true stories about enterprising men like Herb is yours for the asking. Write Chrysler Corporation, Highland Park 3, Mich.

Dealers in Chrysler Corporation products are selected for their integrity, their merchandising skill . . . and their capacity to serve the ever-growing preference for the cars and trucks that exclusively offer the superior values of Chrysler Engineering Leadership.

## Chrysler Corporation

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS  
Fine Cars of Great Value

## Timing Valves . . . .

Continued from Page 102

If the chain has jumped or is broken, first remove the old sprocket and chain and turn the camshaft so that the punch mark on the sprocket is pointing downwards straight with the ignition distributor rotor arm on No. 6 cylinder segment. Then turn the crankshaft until No. 6 piston is at top dead center. This will be when the timing punch mark on the crankshaft sprocket is pointing straight upwards. Remove the two screws holding the camshaft sprocket to the camshaft and using a puller, remove the camshaft sprocket and chain from the camshaft. The crankshaft sprocket will come off readily without use of a puller.

To replace, install the crankshaft sprocket over the crankshaft until it engages the key, being certain that the counting punch mark is pointing straight upwards. Install the timing chain over the camshaft and crankshaft sprocket and start the camshaft sprocket, being certain the aligning dial is in position where it will enter a hole in the camshaft freely and also that the timing marks on the sprocket are nearest each other and in line between shaft centers. It will be necessary to press the camshaft sprocket into the shaft with a special tool which has been developed for this purpose. When the camshaft is secured, turn the engine two full revolutions until the timing marks again assume the original position and check to make certain

(Continued on page 108)



"I'll keep the motor running, I want you to listen to that slight valve tap I've got!"



On every engine reconditioning job . . .



**Start with  
the Rods!**



**Protect Your Work . . .  
Use Federal-Mogul Exchange  
Insert Connecting Rod Service!**

The *rods* need attention, when you're doing engine bearing work. Put a new bearing into an out-of-round rod, and the *bearing* soon goes out of round . . . and fails! It hasn't a chance to give the mileage that's built into it. *Just one-thousandth extra* is all it takes

to put the rod into the dangerous class. Don't take a chance on that invisible thousandth! Use Federal-Mogul exchange insert connecting rod service. Get reconditioned rods with truly round bores, and protect your work. *Ask your Federal-Mogul jobber!*



**FEDERAL-MOGUL SERVICE**

(Division of Federal-Mogul Corporation)  
**DETROIT 13, MICHIGAN**

Whatever the engine  
bearing requirements  
may be, the right  
answer is in this box!

Engine Bearings • (Main,  
Connecting Rod and Cam-  
shaft) • Bushings • Con-  
necting Rod Service—  
Exchange Insert Rods, Re-  
babbitted Rods • Connect-  
ing Rod Bolts and Nuts •  
V-Seam Piston Pin Bushings  
• Shims and Shim Stock

## Timing Valves . . . . Continued from Page 106

that the punch marks which are little round circles stamped into the front face of the camshaft are in line between the shaft centers.

### Chevrolet

On some model Chevrolets it is necessary to remove the oil pan in order to remove the two bolts which go through the main bearing cap into the timing case cover.

Camshaft gears can be removed by splitting the fiber gear and then the hub on the camshaft and then withdrawing it. However, the Chevrolet factory recommends that the camshaft be removed to replace the gear. The reason for this is that when pressing the gear on, proper clearance between the thrust washer on the back of the gear between the block must be main-

tained. Also when driving the gear, there is a possibility of driving the welch plug out of the fly-wheel housing which would result in a serious oil leak. Replacing the gear without removing the shaft can be done by removing the fuel pump and inserting a pry bar against the cam. This will hold the cam from being pushed back, while the gear is driven on. When installing new gears, the mark on the camshaft gear should be in line through the shaft center and mated with the one on the crankshaft gear. Also they must be nearest to each other.

### Chrysler

The procedure for installing chain or a sprocket on the V-8's is essentially the same as it was for the earlier models with the following exception.

The camshaft gear is located to the shaft by means of a dowel pin which also passes through the gear and fuel pump eccentric. The eccentric is held in place with a single nut and lock washer. In some instances, the fuel pump eccentric may be a little tight on the valve pin and will require tapping with a fiber hammer to remove.

On all the six and eight cylinder engines, to retune the valves where the timing has jumped proceed as follows:

Detach the camshaft sprocket, slide it off the shaft and remove the timing chain. Unless the crankshaft sprocket is to be replaced, it will not be necessary to

(Continued on page 110)

**Now!**

A complete and  
revolutionary  
**Merchandising  
Campaign**  
designed  
specifically  
to sell more  
battery cables!

For complete details see  
your jobber or write

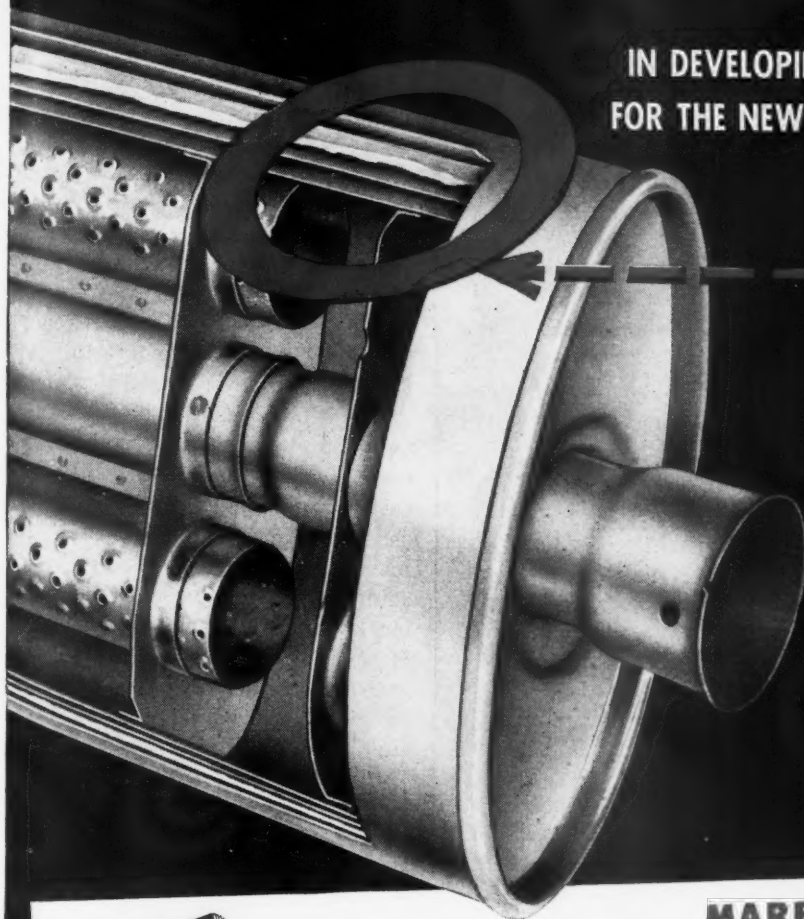


**THE CRESCENT CO., INC.**  
**PAWTUCKET, RHODE ISLAND**



# MAREMONT LEADS...

IN DEVELOPING EFFECTIVE MUFFLER DESIGNS  
FOR THE NEW HIGHER COMPRESSION ENGINES



for example

this exclusive, new

## 4 PLY ASBESTOS WRAP

Eliminates shell noise... prevents radiation of muffler heat to body of car. Specially constructed with double wrapped steel inner shell... a third ply of  $\frac{1}{16}$  inch sheet asbestos... plus a fourth ply (an outer shell) of sheet steel. What's more—and this is important—all three steel plys are securely spun together and permanently interlocked with the end caps—fully enclosing and protecting the asbestos and giving an absolute gas-tight seal! Another fine example of Maremont leadership in research and development!

## MAREMONT

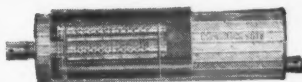
... the line with the right designs ... for every engine type!



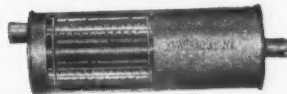
Ask Your Maremont Jobber  
Salesman to Show You...

"SELL 'EM AT THE LIFT"

Here is a real muffler money-maker for you! In a few minutes you'll have the facts on how to sell all the mufflers you should sell! Be sure your jobber man shows it to you!



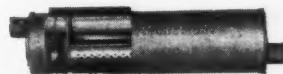
**RIBBED DOUBLE SHELL**—two shells BOTH fully ribbed—prevents vibration, shell noise!



**DOUBLE WRAPPED**—two shells for "hush" performance—deep tone quality—extra strength and rigidity.



**STRAIGHT THRU**—scientifically designed tube protrusions and perforations for maximum performance!



**3-PASS ROUND**—cushion chamber design reduces impact upon end caps; minimizes back pressure.

# MAREMONT MUFFLERS

MAREMONT AUTOMOTIVE PRODUCTS, INC.

General Offices: South Ashland Ave. at 16th St., Chicago 8  
Also Manufacturers of Maremont Springs



## Timing Valves . . . . Continued from Page 108

remove it from the shaft. Rotate the shaft so that the mark on the crankshaft sprocket is toward the camshaft and in exact alignment between the shaft centers. Install the timing chain over the cam sprocket so that the mark on the cam and the mark on the crank sprocket are nearest each other. Note that the cam sprocket bolt

holes in inline engines are staggered in such a way that the sprocket will enter only one way and permit the bolt to enter through the holes in the hub. Rotate the camshaft so that the holes line up while the timing marks remain in line between the shaft centers. Bolt the sprocket on the hub and torque the bolts. Turn the

crankshaft two full revolutions, then check to see if the marks are still in alignment between the shaft centers.

When set in the manner described, the marks align between the two shaft centers the timing must be correct. Valve timing is expressed in degrees before or after top center at which the intake valve opens. In order to make an accurate check of the valve timing without disturbing the chain case proceed as follows:

Remove the valve chamber cover and insert a feeler gage having considerable less thickness than the valve clearance, between the lifter and the valve. Crank the engine slowly until No. 1 cylinder is ready to commence its intake trip. At this point the crankshaft should be turned very slowly at the exact point of rotation of the crankshaft noted when the lifter tips the feeler gage. When the section of the vibration damper which is marked in degrees before and after top center note the degree mark which is under the pointer. If reading noted is within four degrees of the proper specifications given by the factory, the valve timing is within its proper limits.

On V-8s with hydraulic lifters operating at zero clearance, a dial indicator can be mounted on top of the valve spring or on the top of the push rods so that the lifting of the valve can be detected by motion at the indicator. Otherwise the procedure is the same.

### Ford, Mercury and Lincoln

On all models on Ford and Mercury built from 1940 to 1952, the valve timing procedure is as follows:

The drive on these models is by means of gears and unless the gears are badly worn or damaged, or deliberately tampered with, the valve timing will remain as set by the factory. To replace the gears, remove the timing case cover and take off the camshaft gear. If it is necessary to replace the crankshaft gear, remove the oil pan. Press on the new crankshaft gear, being careful when starting the gear that the key and the key way are in perfect alignment. Otherwise

(Continued on page 114)

## Here's Why **COLUMBUS** is the Best Shock Absorber

### POINT No. 3 OF A SERIES →

The pressure chamber of the Columbus Shock Absorber is mounted from the car **FRAME**, where the fluid and working parts receive the gentlest motion.

The old method—used in conventional shocks—mounts the pressure chamber to the *wheel suspension*. Like vigorously shaking a partially filled bottle of liquid, this type mounting causes extreme aeration, resulting in loss of shock absorption.

Also, Columbus is the *only* shock absorber having a Cavitation Chamber at the top of the pressure tube, to capture the air and forever separate it from the oil.

**NOW** is the time to line up with **COLUMBUS**, "The Best Shock Absorber in the World." Backed by extensive national advertising.

**COLUMBUS**  
*Luxury-ride* SHOCK ABSORBER  
LICENSED BY DE CARBON



MANUFACTURED BY HECKETHORN MFG. & SUPPLY CO., LITTLETON, COLORADO



**YOUR  
U.S.I.  
FRANCHISE**

# GIVES YOU BIG-TIME ADVERTISING!

## **MAGAZINE CAMPAIGN EVERY AD FULL PAGE!**

Series of full page U.S.I. PERMANENT color ads in the Saturday Evening Post, full page in Life and Collier's too, for your early Fall sales!

## **NEWSPAPER CAMPAIGNS IN KEY CITIES!**

New! Big-space SUPER PYRO newspaper campaigns in key cities and surrounding areas... localized for each state, to gain extra local interest!

## **BILLBOARDS ALL OVER THE MAP!**

On highways all over the U.S.A., new 24-sheet posters will talk directly to the man at the wheel — pre-selling him on U.S.I. PERMANENT and SUPER PYRO!



### **U.S.I. PERMANENT**

— the **WEATHERPROOF** anti-freeze! One shot gives *uninterrupted* protection from Fall till Spring, no matter how high or low the temperature goes! Stops rust and corrosion, won't clog. Start selling it in early Fall!



### **SUPER PYRO**

— the **ECONOMY** anti-freeze! Super protective: gives more protection per quart! ... lasts longer ... stops rust, protects all 7 metals in cooling system... free from unpleasant odor. For years one of the fastest and biggest sellers!

***YOU CAN RELY  
ON U.S.I.!***

- for top profits! — none higher in the industry! You can't lose with U.S.I.!
- for top quality! — backed by U.S.I.'s 37 years of anti-freeze know-how!
- for top acceptance! — through word-of-mouth and strong national advertising!

**Get your order in now! Your anti-freeze season will soon be here!**

**U. S. INDUSTRIAL CHEMICALS CO.**  
Division of National Distillers Products Corporation

This advertisement appears in LIFE, Sept. 8—COLLIER'S, Sept. 27,  
and SATURDAY EVENING POST, Sept. 27

The Postal Inspectors'

# FIRST *to meet demands of today's high powered engines*

*Gives you*

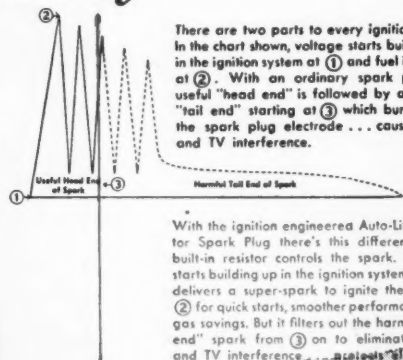
**QUICK STARTS**

**GAS SAVINGS**

**DOUBLE LIFE**

**SMOOTHER PERFORMANCE**

*Here's why:*



**First Resistor-Type Spark Plug Approved as  
Original Equipment by leading car manufacturers.**

AUTO-LITE SPARK PLUGS—PATENTED U.S.A.

Tune in "Suspense!"  
CBS RADIO MONDAY  
CBS TELEVISION TUESDAY



Auto-Lite RESISTOR Spark Plugs are one of a complete line of spark plugs made by Auto-Lite for every US



# AUTO-LITE

## Resistor

## SPARK PLUG

### FIRST Resistor Spark Plug approved as original equipment

It is only natural Auto-Lite should be first to make available one of the greatest advancements in spark plug design for automotive use in the past twenty years, because Auto-Lite engineers are working constantly with engineering staffs of car manufacturers to provide better automotive ignition. They know, years in advance of actual production, the goals of these engineers . . . the changes contemplated in engine design . . . the need for new types of coils, distributors and, significantly enough, spark plugs.

The powerful advertisement shown on the opposite page will tell millions how the Auto-Lite

Resistor Spark Plug benefits car owners. It appears in *Life*, Sept. 8, *Collier's*, Sept. 27, *Saturday Evening Post*, Sept. 27, and will be featured on the top-rated Auto-Lite "Suspense" program on radio and TV. Here is a terrific promotion that is bound to help this outstanding sales leader boost sales of Auto-Lite Spark Plug Dealers everywhere.

Such leadership proves without question the fact . . . "YOU'RE ALWAYS RIGHT WITH AUTO-LITE."

THE ELECTRIC AUTO-LITE COMPANY

Merchandising Division

Toledo 1, Ohio

Toronto, Ontario



## Timing Valves . . . . Continued from Page 110

it is very difficult to align the key with the key way if they are not started properly. Turn the crankshaft so that the mark on the crankshaft gear is pointing directly toward the center of the camshaft. Now mesh the camshaft gears so that the mark on the cam gear coincides with the mark on the crank gear. Rotate the cam-

shaft so that the holes in the camshaft hub will line up with the holes in the camshaft gear and insert the bolts and a special lock plate.

### Oldsmobile

On the V-8 models the fuel pump operating cam is bolted to the front of the camshaft sprocket and this

sprocket is located to the camshaft by means of a dowel. Remove the timing chain on the camshaft sprocket and if the camshaft sprocket is to be replaced, remove it also.

Re-install the crankshaft sprocket being careful to start it with the key way in perfect alignment. Turn the timing mark on the camshaft sprocket until it points directly toward the center of the camshaft. Mount the timing chain over the camshaft sprocket and start the camshaft sprocket up onto its shaft with the timing marks nearest each other and in line between the shaft center. Rotate the camshaft sufficiently to align the shaft with the new sprocket.

On some early models a key way is used for alignment. On V-8 models a dowel pin is used. Secure the camshaft sprocket and check to see that the mark on the camshaft sprocket and the mark on the crankshaft sprocket are nearest each other and in line between shaft centers. Valves are correctly timed when they are in this manner. It may be necessary to re-time the ignition since there is a possibility it will be 180 degrees out of position.

The engine is correctly timed when the crankshaft mark on the crankshaft sprocket is facing directly toward the center of the camshaft sprocket. The mark should be nearest each other and in line between shaft centers.

When installing a new chain, assemble the chain to the sprockets and press the cam and crankshaft sprockets on together.



**VALUABLE INFORMATION ON BEARINGS, THEIR CARE & REPLACEMENT**

*You* will find this new Automotive Bearing Manual brimming over with good, practical information. It contains a diagnosis of bearing difficulties and failures, and a section on correction of these troubles. It is written to guide you in the correct method of removing, installing and maintaining automotive bearings. This Johnson Manual is for the use of practical mechanics who service automotive engines and for students in automotive trade schools.

A copy will be sent **FREE** if requested on your business letterhead; also to students and instructors who write on trade school stationery.

**JOHNSON BRONZE COMPANY,**  
455 South Mill St., New Castle, Pennsylvania.

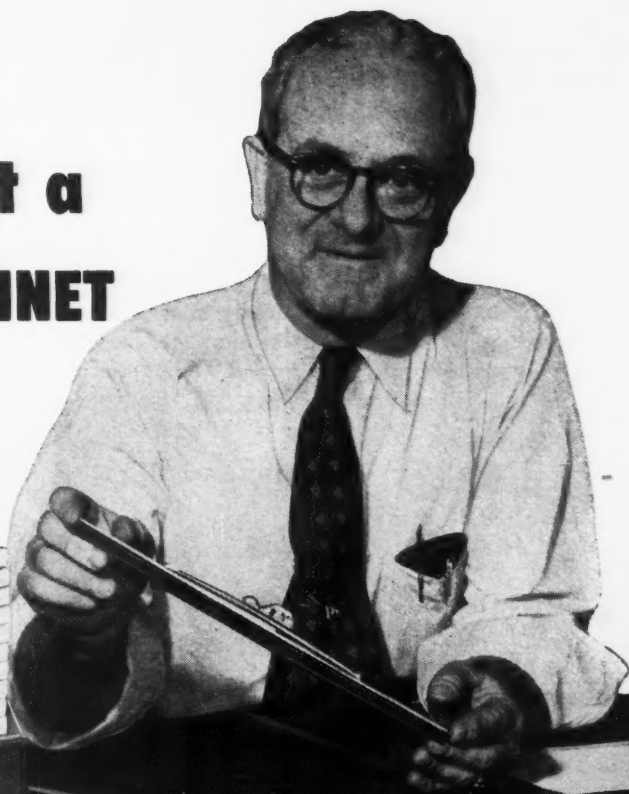


**JOHNSON BEARINGS**  
*Sleeve-B Type*



# This Coupon

## MAKES IT EASY to get a TRICO SALES-MAKER CABINET



**T**ENS of thousands of these handsome metal Trico Cabinets now are making money for dealers nearly everywhere.

To get yours, you need invest *only* in a modest, balanced stock of Trico's new Soft-Rubber Wiper Blades and Arms. Send us the coupon and we'll have your Jobber show you how you can own a Stock Organizer Cabinet D-102, *without extra charge*.

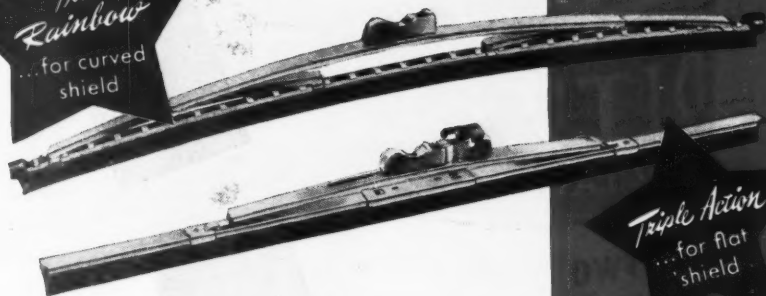
The new blades fit **ALL FOUR** types of wiper arms *without* adaptors. *No more fumbling on the 'shield!* The Cabinet puts the right blade or arm at your finger tips. *No more fumbling on the shelf.*

Mail the coupon to Trico *today!* The big blade season is just ahead. No obligation.



### Windshield Wipers

Trico Products Corporation, Buffalo 3, N. Y.



**TRICO PRODUCTS CORPORATION, Buffalo 3, N. Y.**

Please have a Trico Jobber show me the new Trico metal Cabinet D-102 and submit the cost of a stock of blades and arms especially selected to fit my needs.

Firm Name \_\_\_\_\_

Individual \_\_\_\_\_

Street Address \_\_\_\_\_

Town or City \_\_\_\_\_

(My Jobber is: \_\_\_\_\_)



# Performance that stands out!

● No other manufacturer can duplicate Ditzler's record of consistently *dependable performance* in the field of automotive finishes. That's why Ditzler finishes have been used year after year for nearly half a century by most of the builders of passenger cars, trucks and buses. This continuous preference has

lifted Ditzler to its present position as the foremost *exclusive* manufacturer of automotive finishes. Because Ditzler finishes are rated as best by those who build automotive vehicles, it is reasonable to conclude they should also be the most efficient, most economical and most satisfactory for refinishing needs.



Save time, effort and cost with

## DITZLER TWO-STAR\*\* Materials!

● You can't buy better lacquers for automotive refinishing. Thinned with Ditzler Two-Star\*\* Thinner, DTL-113, Ditzler Two-Star\*\* Lacquers flow on so smoothly that little compounding is required. Two-Star\*\* Polishing Cleaner, DRX-4, gives a brilliant lustre. Use Two-Star\*\* Polishing Compound, DRX-25, if color is sprayed a little dry, or over-spray is rough. Two-Star\*\* Gloss Undercoat, DL-900, eliminates sand scratches in old lacquers. You'll find these materials ideal for small touch-up spots on baked enamel jobs. They are also deluxe materials for all-over jobs in lacquer.

DITZLER COLOR DIVISION, Pittsburgh Plate Glass Company, Detroit 4, Michigan

# DITZLER



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

## Clearing House . . . .

Continued from Page 55

new vacuum line from the distributor to the intake manifold. The manifold does not leak and the heat riser seems to be in good condition.

After having done the above mentioned, nothing has helped. What can the trouble be?

James E. Eckert  
Eckert & Son  
Stonewall, Texas

**U**SUALLY, when a condition like yours develops, it is caused by poor cooling at the valve seats. I would suggest installing all new valves and while the head is off, make sure the water passages are clean inside the block. A 10 per cent solution of hydrochloric acid is an excellent cleaner for blocks. Mix the solution then let it sit in the block over night with the radiator disconnected. Drain and flush it out well the next day and install a neutralizer.

### More Information on Knock at Idle Speeds

Since I am experiencing the same noise at idle speed on Mercury cars that Jack Duckett is having on his 1948 Ford, I would like to pass on this information.

The noise sounds just like a loud valve tap and usually disappears as engine speed is increased. The factory has available on special order a metering plug to be inserted in the end of camshaft to stop the oil pressure from causing the camshaft to vibrate. The job requires only the removal of the timing cover.

James A. McGowan  
McGowan's Repairs  
1311 Chester Pike  
Crum Lynne, Pa.

### This Chevrolet Truck Wears Out Rear Brake Shoes

We have a 1947 1½ ton Chevrolet truck that we cannot keep rear wheel brakes on. It has 33,000 miles on it. It has had five sets of linings, although the front ones have never been replaced. The last ones we installed, the drums were turned, new anchor pins installed and new wheel cylinders. They

(Continued on page 118)



## We Send Profits to You

Endless millions of people read our advertisements in a long list of magazines. Each of these advertisements features these two facts:

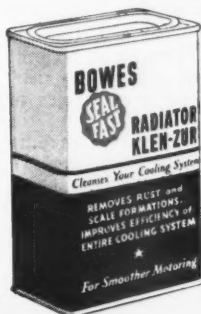
1. Bowes "Stop-Leak" will save you money and trouble;
2. Look for the Bowes "Seal Fast" Dealer if you want guaranteed "care-free" service.

### Cash-in on BOWES Advertising

Bear one important thought in mind. Over the years we have spent many thousands of dollars for advertising to send business to BOWES Dealers. This advertising has paid handsome dividends to both BOWES Dealers and to this company—we can't win if you don't.

Identify yourself as a Bowes "Seal Fast" Dealer and "Cash-in" on our national advertising.

### 2 More Fall Profit Items



#### RADIATOR KLEN-ZUR

An amazingly efficient, acid-free cleaner. Quickly and safely breaks up rust, scale and lime formations.

#### RADIATOR RUST-ROUT

Not only breaks down existing accumulations of rust but prevents accumulation of more rust. Also lubricates the water pump. Rust-Rout is a MUST for genuine preventive service.



BOWES "SEAL FAST" CORP., INDIANAPOLIS 7, INDIANA

## Clearing House . . . . Continued from Page 117

were down to the shoes at 38,000 miles. We cannot detect a drag on the wheels at any time. We have checked all the lines for dents or kinks and have found none.

B. O. Blythe  
Blythe Garage  
Edwardsport, Ind.

IT is very unusual for your truck to be wearing out the brakes so

frequently. I would suggest that you check the emergency brake linkage and make sure that it is free. Be sure that when the truck is loaded, the brakes are not being applied by the shortening of the cables when the springs deflect under a load.

I don't know what type lining you have been using but I would

suggest that you try a different brand.

I am also wondering if maybe your brake hydraulic lines or cylinders on the front were partially blocked causing the rear brakes to do more work than they should.

### 1933 Pierce-Arrow Specifications

**Main Bearings:** Bronze backed, renewable from below.

**Rod & Piston assemblies** are removed from below. Large ends are offset 1/16 inch. Short side of rod is assembled nearest to main bearing. When the oil jet holes in the large end of rods are on opposite side from camshaft, assembly is correct. Tappet Clearance, Inlet .006 inch. Exhaust .008 inch warm.

**Valve Timing:** With tappets set to .010 inch inlet opens at T. C. Exhaust closes 10 degrees or 3 flywheel teeth after T.C.

**Seat Angle of Inlet Valves:** 30 degrees. Car Serial and Engine Number Located. Plate under carpet near right front door.

**Interrupter Point Gap:** .018-.024 inch. Spark Plugs: Champion C7. Colder: 7

**Warmer:** H2 Set to .025-.028 inch.

**Ignition Timing:** With manual control fully advanced spark occurs 13 degrees or 4 flywheel teeth before T.C.

**Firing Order:** 1-6-2-5-8-3-7-4 — The rear cylinder is No. 1.

**No. of Teeth in flywheel:** 112

**Brake Make, Drum Diameter:** Lining Width: Lockheed internal — Front 12 x 2 1/4 inch. Rear 15 x 1 3/4.

**Brake Lining, Total Length:** Front: 3 3/4 ft x 2 1/4 in. x 3/16 in. Rear: 4 2/3 in. x 1 3/4 in. x 3/16 in.

**Oil Capacity in Crankcase in qts:** 8. Differential and Transmission Oil, lbs, or pts: 10.

**Capacity Cooling System in Qts:** 22. Oil Pressure: 15 idling. 40 lbs. at 50 mph. Adjustment located right side of engine.

**Compression Gage Pressure:** 82 lbs. at cranking speed.

**Carburetor:** Schebler SX-411 or SX-424.

**Universal Joints:** Inside, Detroit, outside Mechanics.

the World's Original Grime Buster . . .

# Turns Dirt into Pay-Dirt

Hypressure JENNY  
COMBINATION STEAM CLEANER  
and COOLING SYSTEM FLUSHER

JENNY turns dirt and grime into quick profit dollars the minute you put it to work in your service station, repair shop or garage. JENNY makes dirty, oil soaked car motors look like new in 15 minutes . . . frees radiator and grill work of dust, bugs and leaves . . . reverse flushes fouled cooling systems . . . thaws radiators . . . cleans crusty springs, dirty wheels and white side-walls . . . prepares cars for painting or undercoating, and does scores of other services at handsome profits.

Before repairs, JENNY removes every speck of mud, muck and grease from motor or parts, thus permitting your mechanics to work up to 40% faster, more efficiently, and more profitably for you. In fact, JENNY does so many extra-profit service jobs that it can easily bring you up to \$800 more business every month.

This BIG INFORMATION PACKED BOOKLET  
IS YOURS FREE. WRITE FOR IT TODAY!



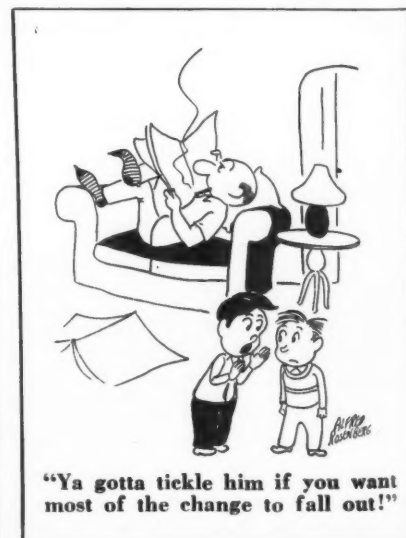
**HYPRESSURE JENNY DIVISION**

**HOMESTEAD VALVE MANUFACTURING COMPANY**

"Serving Since 1892"

P. O. BOX NO. 95

CORAOPOLIS, PA.





# GET 50% MORE PROFIT

ON YOUR  
UNDERCOATING  
JOBS



## LION *Nōkōrōde*

UNDER-CAR SEALER AND SILENCER

### 1. 50% More Jobs Per Drum



Nokorode is *concentrated*—no excess solvent. You spray Nokorode to  $1/16''$  thickness—and it dries to almost  $1/16''$ . It's made *entirely* by Lion under U. S. Patent 2393774, assuring *controlled* uniformity, *controlled* quality. Nokorode goes 50% farther, yet costs no more than ordinary undercoatings. That means 50% more profit for you.

### 2. Easier Application... Lower Labor Cost



Nokorode is *uniform* for smooth application—no troublesome "blobs" ... flows freely permitting steady pressure in the gun. There's no lost time due to lost pressure.

Nokorode is *stable*, made of highly compatible materials—won't separate in storage, won't clog guns or hoses. You avoid unnecessary clean-up jobs—you save man-hours and money.

Made and Guaranteed By

## LION OIL COMPANY

EL DORADO,



ARKANSAS

**FREE!** Details on how to increase undercoating profit.

LION OIL COMPANY  
El Dorado, Arkansas

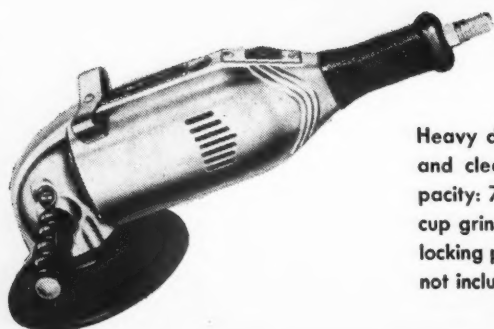
Please send information on higher profits with LION NOKORODE.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_



**SKIL DISC SANDER  
Model 11**

Heavy duty 7" disc sander for tough sanding, grinding and cleaning jobs in repair work or production. Capacity: 7" backing pad and disc; 5" wire cup brush or cup grinding wheel. No-load speed: 4200 r.p.m. Gear locking pin for quick disc changes. Overall length: 16 3/4", not including pad. Weight: 11 3/4 lbs.

# Sander balance gives surer 'feel' of the work... prevents work damage!"

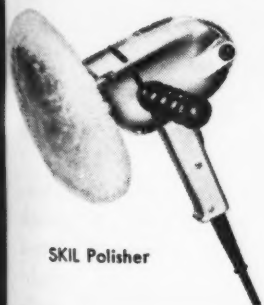


says **Tom Collier**, of  
**LANDER MOTORS, INC.**  
Atlanta, Georgia.

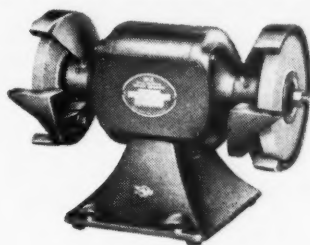
"Yes, I've tried all kinds of disc sanders in my 35 years at this kind of work," says Collier, specialist in body jobs, "and SKIL is by all odds the best make. Not only is it easy to handle, but it's balanced so you get the 'feel' of your work. As a result, you don't burn, scratch or gouge the metal.

"You know, our motto is 'Largest Dodge-Plymouth distributors in the South'. We get a tremendous amount of body work. Naturally I use only tools that really can *take* it! That's where SKIL scores *first* again, tops in durability. Any way you look at it, the SKIL Disc Sander does a *better* refinishing job with *less* work, in *less* time."

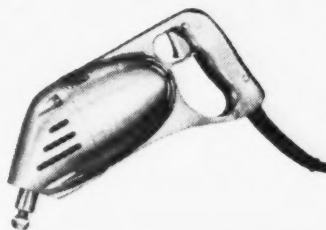
ASK YOUR **SKIL** JOBBER TODAY FOR COMPLETE INFORMATION  
ABOUT THE WORLD'S FINEST AUTOMOTIVE TOOLS!



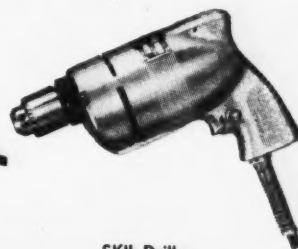
SKIL Polisher



SKIL Bench Grinder



SKIL Valve Seat Grinder



SKIL Drill

SKIL Products are made only by SKILSAW, Inc.  
5033 Elston Avenue, Chicago 30, Illinois

SKILSAW factory branches in 34 principal cities  
In Canada: Skiltools, Ltd., 3601 Dundas Street West, Toronto 9, Ontario





## Hot Rod Business . . . Continued from Page 47

built just for the purpose to home made jobs of original design—and many intermediate combinations of the two. Further divergence in sports cars is caused by engine displacement class racing, ranging from 500 cc to 8½ litres.

Now we come to a much larger segment of the fast growing automotive sport—the “hot rodders!” First of all, a hot rod basically is

an automobile of American manufacture changed to produce better handling qualities and with certain improvements made in the engine to bring about higher horsepower at a greater number of RPM's than was possible with factory equipment. Some hot-rodders stop at engine modifications; others go to perfectly amazing extremes of frame and body modifi-

cation even to the extent of using airplane belly tanks for bodies and converting in some instances to rear engine jobs. There are four basic types of hot rods: the so-called “Lakes” jobs, or straightway competition vehicles; the drag or racing jobs; the street jobs; built primarily for running around town; and last but not least, the semi-stock rods which are externally undistinguishable from ordinary passenger cars.

There are several forms of hot rod competition, the most popular being the professional hot rod track races and the pro-amateur “drag” races or acceleration trials which achieved original popularity on the West Coast and are now held almost everywhere. Hot rod competition reaches its most active state on the western dry lakes and salt flats, the most familiar locales being Muroc and Rosemont Dry Lakes and Bonneville Salt Flats, which is the World Series of the sport, drawing entries from

For 50,000 Miles of

# Clear Vision!



Install  
**AIRTEX**  
dual type  
Fuel & Vacuum  
**PUMPS**

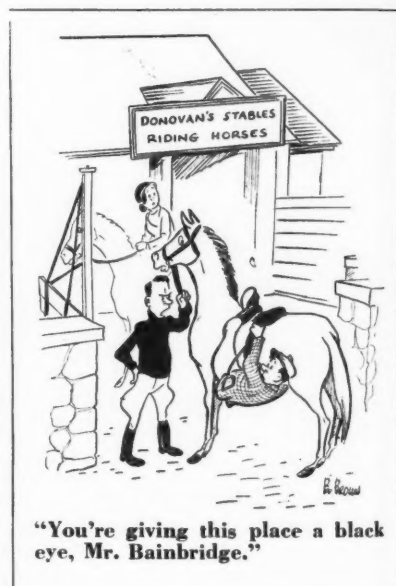


“CLEAR-VISION” windshield wiper action demands perfect pumping, that only a perfect diaphragm can insure. That's why millions of cars need AIRTEX “Dual-Type” Fuel-and-Vacuum Pumps, with the famous AIRTEX 50,000-mile guaranteed Diaphragm. For better windshield wiper action, bigger sales, and increased profits, sell the double unit—sell AIRTEX “Dual-Type.” There's a “Dual-Type” Pump to fit every popular car and truck on the road.

WRITE FOR CATALOG TODAY!

**AIRTEX**  
**AUTOMOTIVE DIVISION**  
FAIRFIELD, ILLINOIS  
WORLD'S LARGEST INDEPENDENT MANUFACTURER OF FUEL PUMPS

Equipped with the famous  
AIRTEX 50,000-Mile  
Guaranteed Diaphragm



every country in the Western Hemisphere.

Speed shops offer a good indicator of the dynamic growth which is being experienced in the hot rod industry. Speed shops are establishments which specialize in selling speed equipment only and there are probably over 400 of these in the United States today—while speed equipment as a secondary line may be handled by as many as 2500 to 3000 more, giving

(Continued on page 124)

# for Buicks— use **BUICK** FACTORY ENGINEERED rings!

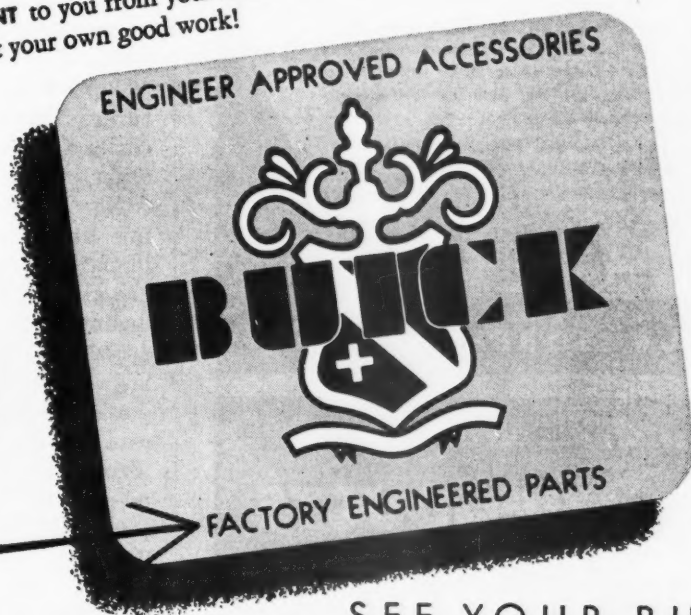


THEY WORK BEST — because they're *Factory Engineered* by Buick and made to Buick's own high specifications.

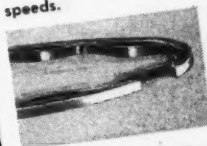
THEY BOOST COMPRESSION and OIL MILEAGE — as explained in the close-up pictures at the right.

FULL TRADE DISCOUNT to you from your Buick dealer. Get all your Buick parts from him — protect your own good work!

**BETTER  
WORK  
WITH**



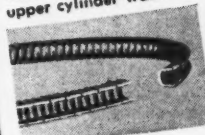
Top compression ring—beveled to twist slightly, and seat itself fast. Resists ring flutter. Controls blow-by at high speeds.



Second compression ring — two-piece type, also beveled. Made to "stay put" without rotating.



Upper oil ring—two-piece, with scraping edge for a clean wipe and top oil economy. Keeps excess oil off hot upper cylinder wall.



FLEX-FIT lower oil ring — great flexibility (see illustration above). Follows any shape cylinder wall, even out-of-round.

SEE YOUR BUICK DEALER

## Hot Rod Business . . . Continued from Page 122

a total outlet in the neighborhood of 3500.

Some of the most successful shops gross over \$100,000 each year. It is, however, known that there are 200,000 serious hot rodders in the United States and that they spend an average of \$100 apiece on their cars a year. This makes a \$20,-000,000 volume right off the bat

before taking into consideration the average men who want just a little soup-up work on their personal cars.

There is some speed equipment manufactured for all current makes of American cars, the majority, of course, being for Ford, with Chevrolet a close second. There is even one outfit which spe-

cializes in nothing but speed equipment for four cylinder Fords. Different Ford equipment is the easiest to obtain and is probably the least expensive, there being anywhere from twice to ten times as many different types of equipment for Ford as for other cars, depending on the make.

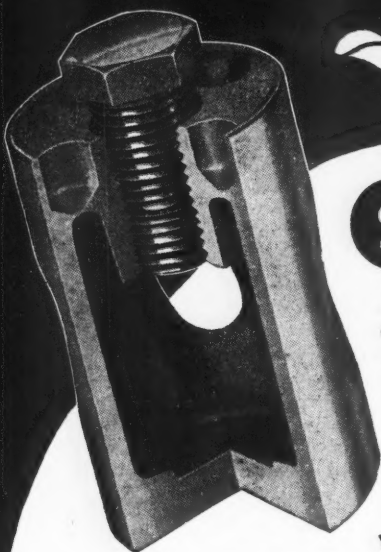
Special equipment includes dual, triple, and quadruple manifolds, high compression heads (both L-head and overhead valve), re-ground or specially made cams, dual ignitions, magnetos, aluminum pistons, special rings. Also valves, flywheels, clutches, exhaust headers, fuel injectors, blowers, quick change rear end units, ball bearing units for cars that normally have roller bearings—not to mention carburetor kits for burning special fuel (methanol, nitromethane, hydrogen peroxide, ether, benzol, etc.), magnesium and aluminum wheels. There are also special tappets, push rods, and all manner of items for doll-up purposes. Actually, there is something made by some manufacturers for any and every make of American car. The authorities for the above information are the heads of four different, competitive sped shops who do national and international business.

In addition to the above, there is a minimum of 1200 foreign car sales and service establishments from Coast to Coast, and it is generally difficult to get into any of them for work due to ever increasing sales of imported cars. M-C alone accounted for \$6,000,000 gross sales in 1951; and there are independent American manufacturers making parts and accessories for the M-G, as well as for other popular imported cars.

Now where can engine rebuilding fit into this picture? Your initial reaction may be that there are already so many people in the business that it may be overcrowded. I do not believe that this is so for two reasons. First, interest is still growing at a fantastic rate and should continue to do so; second, much of the work that is being done now can be improved upon with respect to price, delivery and quality of workmanship.

Now, assuming that you have  
(Continued on page 126)

### *Make V-8 valve grind jobs Pay Off and Get a Double Profit by Installing **JOHNSON** adjustable tappets*



It's easier to sell tappets when the head is off. And you can make a double profit with less work by recommending Johnson Adjustable Tappets with your valve grind jobs. During a valve grind, lift out the old tappets and slip in Johnson Tappets. As simple as that you can make this double profit and save the hard work of grinding off valve stems.

Your customer is better satisfied because you can adjust Johnson Tappets to give him a smoother, quieter engine. Adjustment is simple. Special spanners included with each set of tappets leave both hands free to make faster, more accurate adjustments. Once you've set the patented self-locking screw, Johnson Tappets will maintain the setting.

There's more profit for you if you sell Johnson Adjustable Tappets with every Ford and Mercury V-8 valve grind. Order a supply of Johnson Tappets today.

**SEE YOUR JOBBER!**

*"Tappets Are Our Business"*

**JOHNSON  PRODUCTS**  
INC.

**MUSKEGON, MICHIGAN**



# SELL the MIGHTIER DELCO



**THE BATTERY THAT  
MEANS BUSINESS!**

## EVERY DELCO BATTERY HAS THESE FEATURES!

**Delco offers you greater battery-selling opportunity** because the mightier Delco is *first choice* with car engineers, with car owners... has the **biggest pre-sold market**. Delco is designed to deliver maximum starting power... to operate in balance with modern automotive electrical systems and to meet every modern driving need. Take advantage of this greater battery-selling opportunity now! Delco batteries are available everywhere through United Motors distributors.

**ACCEPTED BY MILLIONS!** Delco is first choice with millions of car owners. American motorists depend on Delco for reliable starting power, for longer life.

**ORIGINAL EQUIPMENT LEADER!** Delco batteries are *original equipment* in more cars and trucks than any other make. These car and truck owners are pre-sold on Delco... the battery they know for good service.

**POWER-PACKED MERCHANDISING!** Delco's up-to-the-minute merchandising aids, plus battery service and technical data, are all designed to keep you out in front in battery sales.

**IT'S EASY TO GET STARTED!** The *big* battery market is the *Delco* market. Delco sells easier because Delco has the confidence of more people. See your local United Motors distributor. Find out for yourself how easy it is to get started in the Delco business.

**MAXIMUM STARTING POWER!** In life performance tests, Delco batteries showed maximum starting power, after months of operation.

**NEW SUPER-QUICK STARTS IN COLD WEATHER!** Exclusive, patented "expander" formula used in making negative plates for batteries produces greatly improved action in cold weather.

**NEW BATTERY RUGGEDNESS!** Exclusive high temperature vapor treatment of plates creates stronger, longer-lasting bond... insures greater resistance to shock and distortion.

**NEW "BALANCED" GRAVITY RATING FOR FINEST PERFORMANCE!** The new "balanced" gravity rating of Delco batteries assures users of longer battery life. Extra battery life means extra miles per battery—more value for your money.

**"TAILORED" CASES!** Delco has "tailored" cases for each battery model. Special sealing compound to prevent cracking and leaking. Visual filling device for instant servicing.

## DELCO BATTERIES

A GENERAL MOTORS PRODUCT  A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

## Hot Rod Business . . . Continued from Page 124

decided to get started—what is the best way to go at it? I would say first of all to investigate your local competition and attempt to either provide services that no one else is providing, or else to provide the same services better. What are these services likely to be? Before reaching the answer to this one, you must realize that

a good many hot rodders and sports car enthusiasts do their own work. But there are many things which they cannot do because they do not have the shop equipment—and this is where you come in with your services. You can shave down a head, bore out an engine or sleeve it down to smaller displacement, grind crankshafts for

the stroke and destroyers. As most of you know, "stroking" means to regrind the crankshaft journals off center in such a way as to establish a new center line, thereby increasing or decreasing the stroke and hence displacement and compression. This operation requires special bearings and often after the first grind the crankshaft is built up, reground, and hard chromed.

I would include special cam grinding, porting and relieving, balancing pistons, rods, and crankshafts, special machine work such as turning down flywheels to lighten them, building up and balancing clutches, removing counter weights for high speed shifting and so forth. Very generally, I would say that your services should include all the things you do anyway (only special order) and whatever other of the more specialized operations you are in a position to assume. Just to show what can be done in the more or less specialized field, Joe Warren, in Miami, was in the carburetor business and decided to get into porting and relieving as a side line. As most of you know, porting means smoothing out and enlarging intake and exhaust manifolds and ports and relieving is to enlarge the opening between the combustion chamber and the cylinder bore on an L-head engine by grinding away the ridge at the top of the cylinder block between the valves and the cylinder bore. At any rate, Joe Warren made a success out of this specialized service alone to such an extent that his business expanded immeasurably.

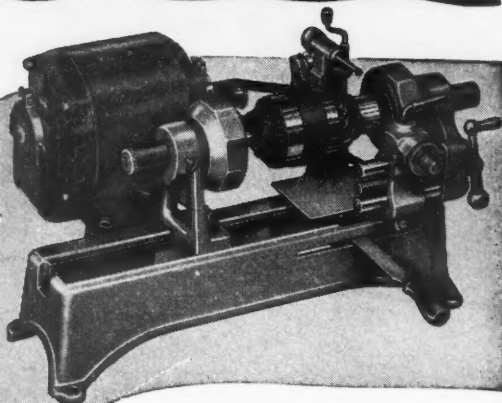
If you want some of this business, the thing to do is to go after it aggressively—stock some of the standard speed equipment to start with.

Advertise—one of the best ways is to sponsor a car in the local hot rod or stock car races—and there are ways and means to do this at a minimum cost. For example, if you do a little work for a hot rodder that he can't do for himself, he'll put your name on his car.

Above all, do good work, at a fair price and the word will get around. You may even find yourself as I have, getting fascinated in the automobile all over again.

### THIS TRUCUT PACKAGE REALLY PUTS YOU IN BUSINESS!

GET EXTRA PROFITS  
from  
Starter-Generator  
Work!



TRUCUT ARMATURE LATHE  
AND UNDERCUTTER

There's plenty of extra profit in starter-generator work . . . if your shop is equipped to handle it!

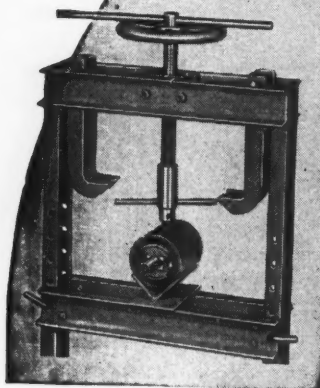
And you can handle it with these three TRUCUT tools . . . all tried and tested . . . all designed especially for automotive repair jobs! With them, you can machine and undercut commutators perfectly; test for shorts, open circuits, and grounds; make quick, easy work of dismantling and assembling generators. The TRUCUT Press is also useful on dozens of other jobs around your shop.

This TRUCUT package actually pays for itself in an amazingly short time. Enables you to handle work you are now sending out . . . or helps you to do it more quickly and profitably! Write for free details and catalog M-9, today.

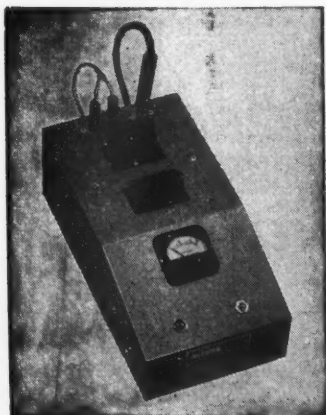
FRANK N. WOOD CO.  
... SINCE 1932

TRUCUT

344 W. Main Street • Waukesha, Wisconsin  
Pacific Coast Address  
1330 W. Olympic Blvd., Los Angeles 15, Calif.



TRUCUT SHOP PRESS



TRUCUT ARMATURE TESTER

*Now Ready--Newly Improved!*

# R-M SUPER FLASH-SAND

*Autobody  
Primer-Surfacer*



R-M Super Flash-Sand is available in Red, Light Gray or Dark Gray.

- 1 Excellent workability and fast drying helps keep refinishing operations moving.
- 2 Only light, easy sanding required. (Many experienced refinishing men are referring to this amazing undercoat as the "Lazy man's primer surfacer.")
- 3 The excellent filling and holdout of R-M Super Flash-Sand keeps final coats on the surface where they belong. A full, glossy finish is assured.
- 4 Reduces two parts of thinner to one part of Flash-Sand. Ask your R-M jobber.

**RINSHED-MASON Co.**

5935 MILFORD AVE., DETROIT 10, MICH.

1244 N. LEMON ST., ANAHEIM, CALIF.



*Manufacturers of passenger and commercial car lacquers, enamels, primers, surfacers, tinting colors, thinners, removers, rubbing compounds, etc.*



# WHO SAYS TIRE CHAINS DON'T MAKE A DIFFERENCE?


Look at these tests conducted by the National Safety Council. With reinforced tire chains, the stopping distance on glare ice is nearly two-thirds less than the distance required with conventional tires!

## STOPPING DISTANCES ON GLARE ICE AT 20 MPH

with CONVENTIONAL TIRES the stopping distance is . . . . . 209 feet

with WINTERIZED TIRES the stopping distance is . . . . . 188 feet

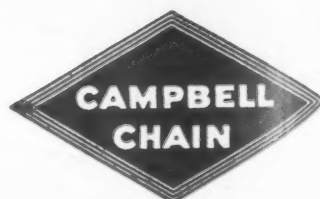
with MUD-SNOW TIRES the stopping distance is . . . . . 201 feet


 . . . with REINFORCED TIRE CHAINS  
the stopping distance is only 77 feet

Your customers should know these facts about winter driving. These tests prove conclusively that reinforced tire chains are by far the best protection you can sell for winter driving. And the best reinforced chains are CAMPBELL Lug-Rein-

forced Tire Chains—the safest, longest wearing and the easiest to sell.

There's always a chain shortage when sudden storms occur. Don't be caught with your chain supply down! Stock up now on Campbell!



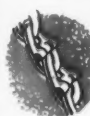
# CAMPBELL

*Lug-  
Reinforced*



Sell chains as you sell anti-freeze, winter lubrication and heater hose. Make it a point to get a set of Campbell Chains in the trunk of every customer's car... before it snows.

CAMPBELL, a top name in chain, offers you this sure-fire program that makes chains easy to sell before the snow flies.



### BETTER PRODUCT

You can show your customers the extra metal in Campbell's patented Lug-Reinforced construction. This insures better traction and guards against skids and side slips. When you sell Campbell, you sell the safest, longest-wearing chain!



### BETTER PACKAGE

Campbell's modern, colorful, eye-catching package displays well, stores well—keeps chains neat in car trunks. Handy, easy-to-use Chain Applier, at no extra cost, is the sales clincher!



### BETTER SALES HELP

The new 1952 Campbell Merchandising Kit contains display banner, ad-mats, streamers, post cards, island and window display suggestions. Contains plenty of ideas to help you make good money selling Campbell Chains this season and ties you in with Campbell's advertising in national magazines. Get complete details from your jobber.

ORDER YOUR STOCK OF CAMPBELL *Lug-Reinforced* TIRE CHAINS NOW!

CAMPBELL CHAIN Company • Main Office: York, Pa. • Factories: York, Pa., and West Burlington, Iowa

# TIRE CHAINS

## Clear the Streets . . . Continued from Page 40

parking program financing plans, one involving an assessment district, another the issuance of revenue bonds, and the third a plan whereby the merchants and property owners would put up the money, and \$1,000,000 in cold cash would have to come largely right out of that meeting room if the assembled businessmen decided on

the private ownership plan.

Lyman Wakefield, Jr., a banker and the chairman of the Minneapolis Chamber of Commerce committee which originally studied this project, tells what happened next.

"The suggestion was made that perhaps those present would like to adjourn for a week and talk this

thing over with their boards of directors. After all, a million dollars is a lot of money.

"A couple of minutes went by, and then one man whom I will never forget, said, 'Let's have a show of hands.' He said, 'How many are in favor of the assessment plan?' Nobody raised his hand. 'How many are in favor of the revenue bond plan?' No hand showed. 'How many are in favor of doing it ourselves?' Everybody raised his hand."

A private corporation was formed with a board of directors representing all the groups present. Over \$600,000 was raised through contributions from property owners and a sizeable loan was obtained.



# GUMOUT

## "ON-THE-ENGINE"

# CARBURETOR CLEANING

### Makes Cars Run Better

You can do it in  
20 minutes

You can build customer good will by eliminating hard starting, stalling, bucking and rough idling caused by dirty carburetors. It's new business, new profits—from an entirely new, low cost service.

Order GUMOUT from your  
Jobber or send coupon today!



**GUMOUT DIVISION**  
Pennsylvania Refining Company  
Cleveland 4, Ohio  
Butler, Penna. Edgewater, N. J.  
Refiners of Penn Drake Petroleum Products  
Since 1880



**GUMOUT DIVISION, Pennsylvania Refining Co.**  
2686 Lisbon Road, Cleveland 4, Ohio MA-6

Please send:

- ... Cases of GUMOUT (24 Pints) at \$7.60 per case
- ... Five-gallon pails of GUMOUT at \$5.20 per gallon
- ... GUMOUTERS at \$2.95 each
- ... Additional information

Name.....  
Company.....  
Address.....  
City..... Zone..... State.....  
Favorite Jobber.....



"Hold it a minute lady, I wanna change ears."

Nudged by the Chamber's street traffic committee, the state legislature had empowered the city to condemn property, issue bonds and build off-street parking facilities, but in the showdown, Minneapolis business people decided to build the facilities themselves.

At Allentown, Pa., a newspaperman and realtor, Donald P. Miller, provided the energy and vision for the famous "Allentown Plan." Merchants, organized under Park and Shop, Inc., now own more than \$1,000,000 in assets, including two ramp garages, and own or operate 10 parking lots, fewer than 300 steps from car to counter.

(Continued on page 132)



When a manufacturer says:

ADVERTISED IN  
**Country Gentleman**

## WHAT DOES IT MEAN TO YOU?



**SOLD!** Your Best Rural Customers. Advertising in Country Gentleman sells the better-income, bigger-buying rural families in your own trading area. It is the best-read magazine in 2,300,000 rural homes throughout America.



**SOLD!** Customers Other Magazines Miss. Non-farm magazines fail to reach Country Gentleman readers . . . 2 out of 3 women do not read any leading women's magazine—4 out of 5 men do not read any leading weekly magazine.

# Rural America's Best Salesman!

### PROOF THAT ADS IN COUNTRY GENTLEMAN SELL GOODS FOR YOU

A nationwide survey shows  
that men and women heads  
of Country Gentleman homes

1. READ THE ADVERTISING in Country Gentleman in 96.2% of homes
2. GET BUYING IDEAS from the advertising in 3 out of 4 homes

DEALERS COAST-TO-COAST SAY: "COUNTRY GENTLEMAN HELPS ME MOST TO SELL MY BEST RURAL CUSTOMERS."

MANUFACTURERS PLACE MORE ADVERTISING IN COUNTRY GENTLEMAN THAN IN ANY OTHER FARM MAGAZINE!



## Clear the Streets . . . Continued from Page 130

In Ann Arbor, Mich., the credit goes to Mayor Bill Brown; in Phoenix, Arizona, it's a hotel owner, John Mills; in Vancouver, B. C., an ex-stockbroker takes the bow; in Bridgeport, Conn., it's a newspaperman; in Rochester, Minn., a lumber dealer.

A warning to downtown businessmen is provided in Salinas,

Calif. Almost half the retail business of that city was lured away by an enterprising real estate developer who, four years ago, bought a large tract of lettuce land in the outskirts and started what is known as Valley Center, where parking is plentiful.

Salinas' downtown shopkeepers had not been unmindful of their

parking dilemma. Many were the committees, meetings, studies and recommendations devoted to business district overcrowding, further aggravated by the constant stream of truckers and tourists on U. S. 101, California's major north-south highway which runs through the middle of town. But little had been accomplished. Curb parking meters and two small municipal parking lots had been installed but they only mildly soothed the problem. A number of institutions desiring to locate in Salinas had taken a look at the traffic mess and gone away.


A survey by the Chamber of Commerce of the United States shows that private interests have provided the largest part of off-street parking capacity in most communities. However, a growing number of municipal and combination private-municipal plans are being put into operation.

Allentown has a joint plan. The 70 merchants incorporated under Park and Shop, Inc., furnish more than 1,000 car spaces for short-time shopper parking, while the municipality provides 400 spaces in two lots at the edge of the business district for all-day parkers. The system of city-owned and operated long-time parking lots, intended primarily for workers, is called "Park and Work," or "Perimeter Parking."

(Continued on page 134)

# NEW "RED-HOT" ITEM

## A FAST SELLER ALREADY



### COLEMAN COMPENSATOR

**SAVES BUYING NEW "THIRD ARM"**  
**IMPROVES STEERING, EASE OF HANDLING**


- Corrects "Sack" in Steering Line.
- Enables Your Mechanics to Make Accurate Steering Gear Adjustments.
- Makes Car Steer and Handle Like New at High Road Speeds.
- Excessive "Third Arm" Wear Compensated and Steering Made Easier.

- Road Sway in High Winds Less Noticeable.
- Excess Wear Prevented on King Pins — Tie Rod Ends and Other Parts of the Steering Line.
- Uses Original "Steering Third Arm" to Make the Repair.
- No Special Tools or Machine Work Needed to Complete the Installation.

**Restores Steering to Original Fine Operating Condition**


Made of Carefully Selected Materials, to Give Long Life and Freedom from Breakage. Tested and Proven by Thousands of Miles of Driving by Engineers and Car Owners. For Chevrolet 1949-52 Passenger Cars.

For complete information on the Coleman Compensator, call, write, or wire



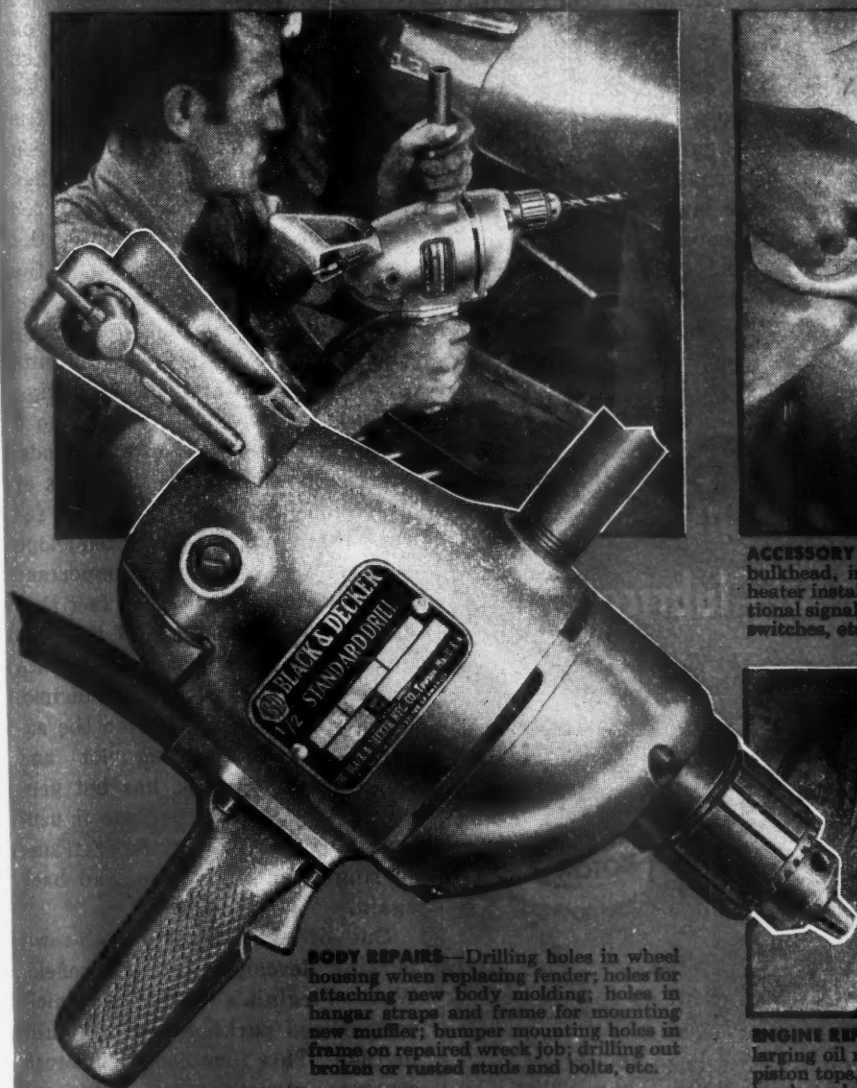
## NATIONAL MACHINE WORKS, INC.

P. O. BOX 4305 MANUFACTURER AUTOMOTIVE PRODUCTS OKLAHOMA CITY 9, OKLA.





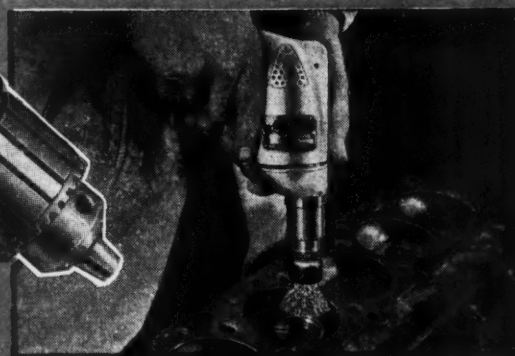
"Would you care to contribute towards a new car—the sooner this rattle-trap is off the highway, the better for all you fellow motorists!"



**BODY REPAIRS**—Drilling holes in wheel housing when replacing fender; holes for attaching new body molding; holes in hanger straps and frame for mounting new muffler; bumper mounting holes in frame on repaired wreck job; drilling out broken or rusted studs and bolts, etc.



**ACCESSORY INSTALLATION**—Drilling holes in cowl, bulkhead, instrument panel for windshield washers; heater installation; holes in steering column for directional signals; spotlights, mirrors, inside visors, special switches, etc.



**ENGINE REPAIRS**—Glaze breaking; cleaning or enlarging oil return holes; cleaning valve guides, heads, piston tops, blocks; drilling holes for repair of cracked heads and blocks; lining up holes in core and shell brackets when replacing radiator core, etc.

## Black & Decker Drills are versatile, practical, profitable All Over Your Shop!

**E**VEN this brief sample of uses makes it plain why electric drills are worth their weight in gold in your shop. And remember: Black & Decker is your *best* buy in electric drills! That's because you get powerful B&D-built electric motors—full ball-bearing construction—extra-tough gears, shafts and chuck spindles—husky housings, streamlined design, perfect balance—and a choice of 25 models, 1/4" to 1 1/4" capacity in steel; choice of speed, power and price in most capacities. See your

nearby B&D Distributor for demonstrations. Write for free catalog of over 100 Electric Tools to: THE BLACK & DECKER MFG. CO., 627 Pennsylvania Ave., Towson 4, Md.





## Clear the Streets . . . Continued from Page 132

Another combination private-public plan is operating in Kansas City, Mo., where the Downtown Committee, after eleven years of negotiation with private operators, merchants and city officials, can take credit for adding 1,800 privately-owned parking spaces downtown, a 20 per cent boost in capacity. The committee also has

helped the city obtain legislation and test cases to permit municipally-owned parking facilities. This took a city charter amendment and a new state law.

Private enterprise in Nashville, Tenn., has devised "Over-The-Hill" parking. Here's how it works: You drive your car to the War Memorial Building in the cen-

ter of town. A nattily uniformed attendant climbs in and drives you to any one of the 19 stores that so far belong to the system. Then he takes your car to the edge of the business district and parks it in the Nashville baseball park. When you're ready, the car is delivered to you in front of any one of the member stores. You notify the parking company by using a special straight-line telephone in any member store. The fee is 50 cents for the entire service for parking up to 4 hours, 75 cents for 4 to 6 hours and \$1.00 for longer periods. Merchants help defray the costs of operation through a monthly fee for their private-line telephone service. One of the most important benefits of the plan is the fact that cars are stored outside of the congested downtown area where space is plentiful. But the same principle, tried in many cities under the so-called transit parking lot and fringe-parking plans, has not generally been popular because it usually involves a long walk or transferring from car to bus and back again.

One of the biggest small-town parking developments is Bluefield, West Virginia's 800-car municipally-owned parking building built in 1948. This four-floor reinforced concrete structure has been inspected by hundreds of visiting mayors and city managers. The garage idea originated with the chamber of commerce, whose board of directors so fired the imagination of the city manager, the late Emory Mitchell, that he took the project as his personal goal and "bulled it through." Many of those who helped him during the early stages of financing did so more out of friendship than expectation. His efforts paid off when the city Board of Directors authorized a \$495,000 issue of self-liquidating bonds, to be serviced through parking fees and rental of automotive service facilities. The building is managed by a parking commission of three businessmen appointed by the city board and is operated by city employees. The garage is not only paying off the bonds but is building up a sinking fund.



**EVERY PROFIT OPPORTUNITY YOURS WITH PENNZOIL**

**Cash in on Pennzoil *quality* by selling the full line of Pennzoil products. Coast-to-coast acceptance of Pennzoil motor oil—the nation's fastest-selling premium oil—gives you a ready market for *all* Pennzoil lubricants.**

You'll stock fewer brands, because you can meet *any* lubrication need with a Pennzoil product. You'll have less money tied up in inventory, because Pennzoil products sell *fast*. And you'll realize more *profit* through proved Pennzoil merchandising programs that develop more customers and keep them coming back.

**Get the facts *now!* Contact your nearest Pennzoil distributor or write us for his name.**

**THE PENNZOIL COMPANY OIL CITY, PENNSYLVANIA**

# FITZGERALD

Metallic Aluminum-Fused-Oxide Steel Asbestos

## GASKETS

# Rugged All ways



Combining strength and flexibility of specially soft-annealed steel . . . aluminum's resistance to rust and corrosion . . . and a filler of top quality asbestos . . . Fitzgerald gaskets give a *lasting* perfect seal under the tough punishment modern high compression engines deliver. Users who've ended a series of costly gasket failures by switching to Fitzgeralds swear by them. You will, too.

**THE FITZGERALD MANUFACTURING CO.**  
Torrington, Connecticut

Canadian: Fitzgerald Ltd., Toronto, Canada • Branch and Warehouse, Los Angeles, California

*also*  
GREASE RETAINERS • CORK GASKETS  
FITZ-RITE TREATED FIBER GASKETS FOR OIL,  
GASOLINE AND WATER CONNECTIONS  
COMPLETE SETS  
FOR MOTOR REBUILDERS



# Maybe You've Got the



*Treats the Engine  
Not the Oil*

PREVENTS "Engine Ulcers" . . . .

© AP Parts Corp., 1952



# Wrong Idea

## MIRACLE POWER TREATS THE ENGINE—NOT THE OIL!

Miracle Power is *not* a purge, *not* a detergent, *not* a chemical. Miracle Power is all lubricant—contains only colloidal synthetic graphite, completely suspended in a fine, light blending oil.

Used in oil and gas, Miracle Power places a breathlike protective graphite film on vital engine parts. This graphite film holds oil on engine parts longer—gives standby lubrication in the temporary absence of oil—prevents dry starting damage when you start up after long stops.

**THE AP PARTS CORPORATION**  
1534 AP Building • TOLEDO 1, OHIO  
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123



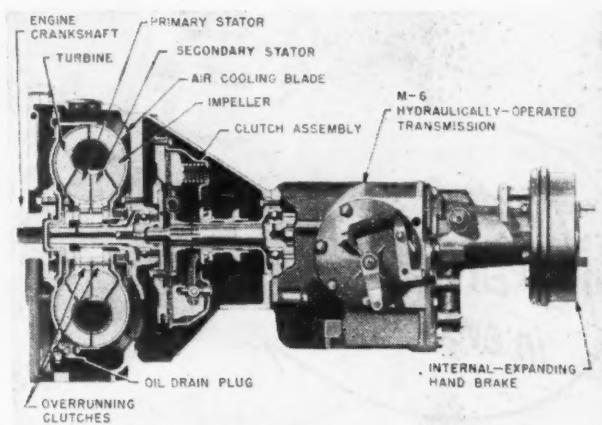
... CAUSED BY DRY STARTING

## DeSoto Offers Simpler Form Of Chrysler Torque Drive

**R**ECENT announcement by Chrysler Corp. of the simplified fluid-torque drive, reveals that the new drive incorporates a much simpler form of Chrysler torque converter, in combination with the familiar M-6 transmission. The new drive is offered as special equipment on all 1952 Chrysler Windsor models; and on De Soto FireDome V-8 models. The torque converter originally developed for the Chrysler V-8 models, however, remains unchanged at this writing.

Redesign of the basic torque converter was effected in conjunction with combining the oil system of the torque converter with that of the engine, thereby permitting elimination of the torque converter oil pump as well as the oil sump. The torque converter now is aircooled by high performance blades on the outside of the torque converter shell. Providing adequate cooling, this blading also eliminates the need for a separate oil cooler.

Maximum torque multiplication of the simplified unit now is 2.5 to 1, a high value in this field, while a



breakaway torque ratio of 4.02 to 1 is available for a start in the drive range.

With this drive 13 quarts of engine oil are used for the combined torque converter and engine system. Although this requires replacement of a larger volume of oil at an oil change, actually replacement has been reduced overall by changing the specified interval between oil changes to but twice yearly—spring and fall—or seasonally depending upon climatic conditions. The oil filter element is replaced every 5000 miles. The fact that the engine can draw upon a larger volume of oil is thought to actually lengthen the useful life of engine oil.

As illustrated, the simplified torque converter consists of four basic elements—an impeller, a turbine and two stators. Both impeller and turbine are hydrogen-brazed assemblies, while the stators are precision aluminum castings. Both torque converter housing and clutch housing are made of die-cast aluminum or magnesium.

Unusual feature of the torque converter assembly is the use of straight radial vanes for the impeller—re-

(Continued on page 140)

# YOU'RE THE RINGMASTER with Pedrick



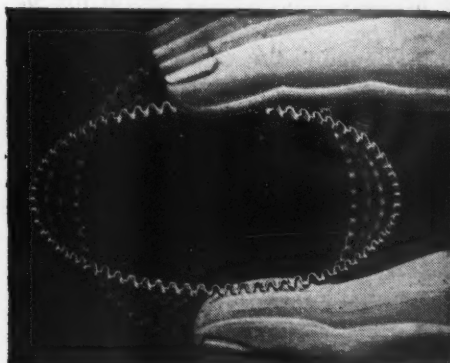
There's a  
"NEW ENGINE"  
in every box

A34 Std.



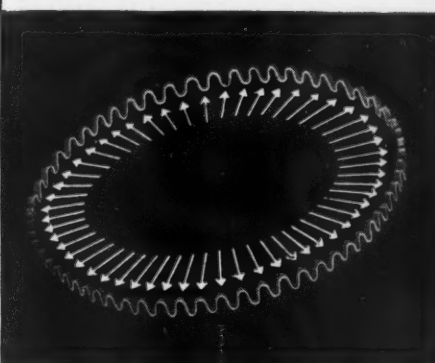
## AMAZINGLY CONFORMABLE

Because of revolutionary new expander—The Pedrick Equalizer. Gives even contact with cylinder all around.



## UNIFORM PRESSURE DISTRIBUTION

The Equalizer gives equal outward pressure at all points, with less friction and far longer life.



## ALMOST TRIPLE OIL DRAINAGE

Because of 2½ times more open area provided by the Equalizer and spacer. Eliminates any chance of plugging.



# FORMFLEX Engineered Sets

**Guaranteed to Out-Perform on any job—Re-ring... Re-bore... Re-sleeve!**

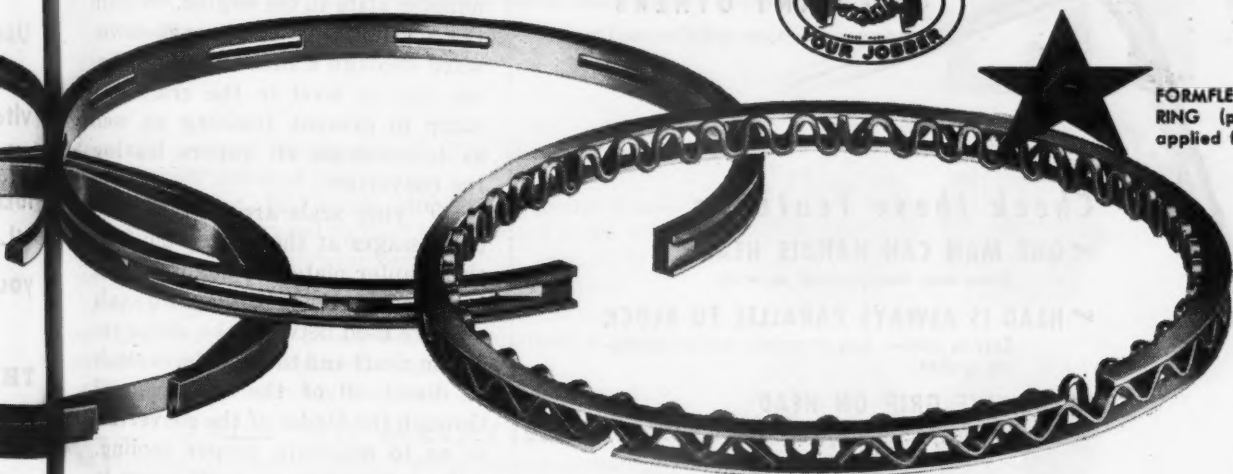
These new, sensational Pedrick Formflex engineered sets have the most revolutionary oil ring in automotive history. Here, for the first time, is a multiple-piece oil ring for use in all kinds of engines—regardless of

taper, out-of-roundness or block distortion. Teamed with companion rings designed for balanced efficiency, the Formflex triple-duty oil ring out-performs and *outlasts* ordinary oil rings by wide margins!

**Pedrick**

## FORMFLEX PISTON RINGS

WILKENING MANUFACTURING CO., PHILADELPHIA 42, PA.  
In Canada: Wilkening Manufacturing Co. (Canada) Ltd., Toronto



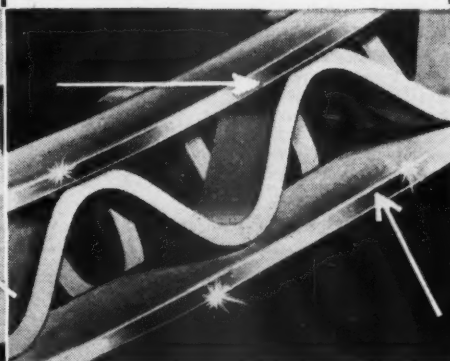
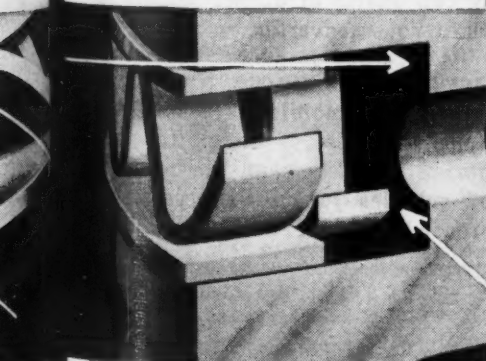
FORMFLEX OIL RING (patent applied for)

### INDEPENDENT OF GROOVE DEPTH

The Equalizer does not rely on contact with bottom of piston groove for its pressure or tension.

### CHROME FOR LONG LIFE

The faces of the two steel rails are chrome plated for two to four times longer life.



Open the door to more engine work and bigger

profits by featuring the "Blue Plate Special."

Get the "Blue Plate" kit for dealers from your jobber... and put it to work. It's got what it takes!



## De Soto Torque . . . . Continued from Page 137

sponsible for the desired stall torque ratio and stall speed. Turbine and stator vanes, on the other hand, are curved for optimum efficiency. Each stator is mounted on an overrunning clutch, consisting of eight spring-loaded rollers mounted within an internal cam and around the periphery of the hub.

The aircooling vanes, mentioned

previously, are mounted circumferentially around the outside of the impeller shell and are irregularly spaced to prevent noise.

Oil is supplied to the torque converter from the rear end of the engine oil gallery. A passage through the adapter plate between the torque converter housing and cylinder block delivers oil from the gallery to the periphery of the

torque converter housing. Oil then flows through passages in the outside and rear of the torque converter housing to a hole in the stator reaction shaft. From here oil flows through an annular space between the turbine drive shaft and reaction shaft to drilled passages in the reaction shaft, providing entry into the torque converter assembly.

From the torque converter, oil flows into a hollow passage in the drive shaft past a ball-type pressure regulating valve. The latter maintains an oil pressure of 20 psi in the torque converter. It also serves to prevent rapid draining when the engine is not running. A 3/32 in. diameter flow restriction orifice in the turbine shaft limits oil flow into the annular cavity between the flange at the end of the reaction shaft and the turbine shaft bearing. By thus limiting oil flow, the orifice prevents starving of the engine.

Oil flows from the annular cavity mentioned above, and through the torque converter housing and adapter plate to the engine. Within the engine oil is discharged downward through a tube to a point below the oil level in the crankcase sump to prevent frothing as well as to condense oil vapors leaving the converter.

"O" ring seals are used for the oil passages at the engine block to the adapter plate and adapter plate to the converter housing. Two seals also are used between the stator reaction shaft and turbine drive shaft to direct all of the incoming oil through the blades of the converter, so as to maintain proper cooling.

An internal by-pass oil pump is provided in the engine to supply both engine and torque converter requirements. This type of pump is non-frothing, supplies approximately two quarts of oil per minute to the torque converter.

### Scrapage Figures

The Automobile Wreckers Industry Advisory Committee reported recently that the number of vehicles junked last year increased 150 per cent over 1950. The report said that the 25,000 wrecking yards last year handled 3,711,820 passenger cars and 649,621 trucks.

**AGAIN-**



**LEADS**

**THE FIELD**

## HEAD LIFTING TOOL

**For All CHEVROLETS**  
1937 through 1952  
**AND MANY OTHERS**



**Check these features**

- ✓ **ONE MAN CAN HANDLE HEAD**  
Saves man hours, speeds up work.
- ✓ **HEAD IS ALWAYS PARALLEL TO BLOCK**  
Easy to remove, easy to replace without damaging gasket.
- ✓ **POSITIVE GRIP ON HEAD**  
Special shape guarantees firm grip — instantly attached or removed.
- ✓ **LIFE-TIME SERVICE**  
Light-weight — tubular steel with welded joints.



ORDER THROUGH YOUR  
AUTOMOTIVE JOBBER  
OR WRITE

**TOUGH TOOLS**

**FOR TOUGH JOBS**



# 1952 Mobilgas Economy Run Proved Again B-W Overdrive

*pays off!*



Top 10 cars (on miles-per-gallon basis) including Sweepstakes winner  
—all equipped with this famous Borg-Warner Transmission unit—averaged

**25.8** MILES PER GALLON

Again this year the records proved: B-W Overdrive means more miles per gallon of gas!

In the grueling, 1415.4-mile Mobilgas Economy Run—sanctioned and supervised by the Contest Board of the AAA—the 10 best actual miles-per-gallon records were made by 1952-model cars equipped with Borg-Warner Overdrive.

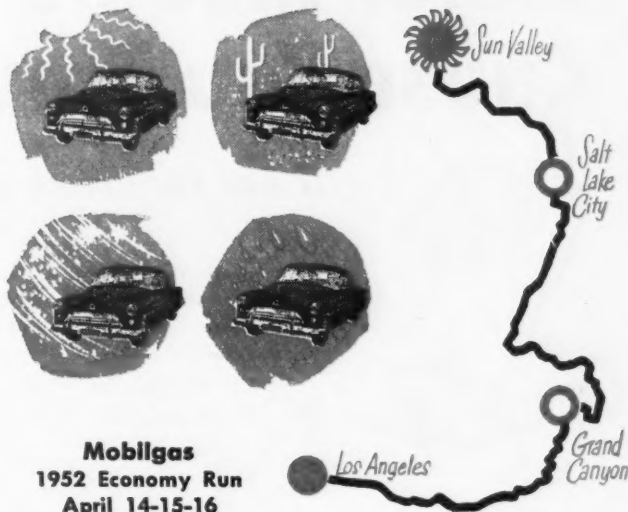
And in every year of this annual contest, the ton-miles-per-gallon Sweepstakes winner has been equipped with this famous Borg-Warner transmission unit.

What better proof could you want of real fuel economy!

### 3 MILES "FREE" IN EVERY 10!

An advanced-type transmission, B-W Overdrive automatically cuts engine revolutions 30%. At 50, for instance, the engine is taking it easy at only 35! That saves gas—hands the owner as much as 3 miles "free" in every 10. Saves engine wear, too—means longer life and fewer repair bills.

Made exclusively by B-W's Warner Gear Division, Overdrive is now offered on 11 leading makes of cars. Proof again that . . . B-W engineering makes it work—B-W production makes it available.



**Mobilgas  
1952 Economy Run  
April 14-15-16**

Sanctioned and Supervised by  
Contest Board A.A.A.

Toughest car driving contest in all the world . . . spanning all four seasons and all-year driving conditions in a 35-hour run of 1415.4 miles from Los Angeles to Sun Valley, Idaho, over a course with altitude from 70 ft. below sea level to 8010 ft. above . . . from mountains to desert, and from icy roads to intense heat.

## Borg-Warner



THESE UNITS FORM BORG-WARNER, Executive Offices, Chicago: BORG & BECK • BORG-WARNER INTERNATIONAL • BORG-WARNER SERVICE PARTS  
CALUMET STEEL • DETROIT GEAR • FRANKLIN STEEL • INGERSOLL PRODUCTS • INGERSOLL STEEL • LONG MANUFACTURING  
LONG MANUFACTURING CO., LTD. • MARBON • MARVEL-SCHLEBLER PRODUCTS • MECHANICS UNIVERSAL JOINT • MORSE CHAIN  
MORSE CHAIN CO., LTD. • NORGE • NORGE-HEAT • PESCO PRODUCTS • ROCKFORD CLUTCH • SPRING DIVISION • WARNER AUTOMOTIVE PARTS  
WARNER GEAR • WARNER GEAR CO., LTD. • WOOSTER DIVISION

In the third round Joe drew Vancouver, Wash. and Bedford, Ind. His rivals drove highly polished, sleek-looking cars as befitted the survivors in a field now reduced to 18. Joe's car, minus whatever streamlining it had originally and on three "green wheels" was again the underdog. He won in 28.02 seconds.

By this time Joe had become the darling of the crowd of 60,000 which packed the especially built boy racing plant that is open only on Akron's "Derby Day." In the semi-final he tangled with one of the top favorites. Ray Gotko, son of a Washington, D. C., major, had been coasting through his heats with ease. The colors of his gay,

red, white and blue racer appeared to run together as he flashed under the bridge. Joe cut his own time to 27.93 seconds and knocked out young Gotko.

The drama that had been building up over the two and one-half hours of racing had everybody on their feet for the final heat. Even the delegations from Flint, Mich., and Williamsport, Pa., whose champions had also come through, were probably secretly pulling for Joe. The only one untouched was Joe. He answered the questions of the radio announcer at the starting line with a mater-of-fact "yes" or "no."

The flag at the finish line dropped. Plates holding the racers on the incline against the pull of gravity slid into the pavement. Vic Shepherd of Flint took a slight lead, then James Thomas of Williamsport edged ahead. Joe's patched up car didn't seem to get going until the three hit the flat straightaway at the bottom of the hill. Then it fairly flew. Joe Lunn went across the finish line with an eight-inch lead in the fastest time of the afternoon. Trailing Joe's record 27.77 seconds were Thomas and Shepherd.

Joe's mother, a care-worn farm woman separated from her husband, made the trip from Thomasville by bus on borrowed funds and by missing most of her meals en route, she joined Joe for the presentation of a \$5,000, four-year college scholarship that Chevrolet annually gives the winner. She hugged young Joe and said excitedly, "Gee, honey aren't you scared?"

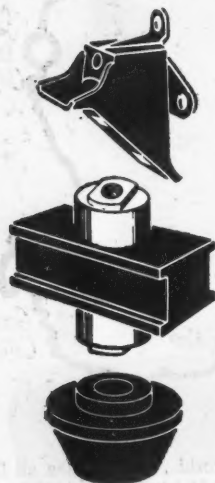
"What's there to be scared of?" said Joe, making his longest pronouncement of the day.

Scarcely anyone knew when Joe went away from his home town. They knew when he got back. There was a parade with two bands and a welcoming speech by the mayor. A public subscription started to repair the house where he lives with his mother, a brother, 4, and a sister, 9. There were a number of personal gifts for Joe. Thomasville is going to make sure that its 11-year-old hero, who never got any help, has plenty of help from now on.



## Motor Mounts Can Cause You Trouble

**if not replaced on time!**



Most mechanics have learned that it doesn't pay to fool around with faulty motor mounts. They know that mounts can cause clutch chatter, motor misalignment and excessive vibration. The smart mechanic can spot the trouble blindfolded. The only safe engine mounting is one that is in perfect condition—one that performs the job for which it was intended with 100% efficiency. Anything less than a perfect motor mount may mean serious trouble.

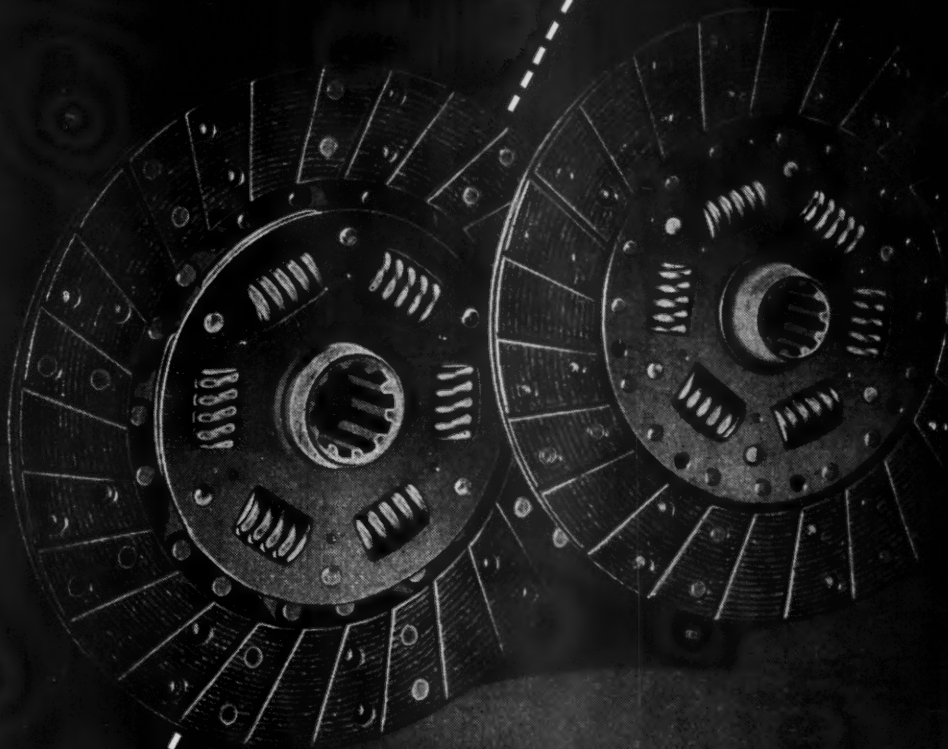
**Install Armer-Flex Motor Mounts. They're made of strong, pliable rubber permanently bonded to brass-plated metals.**

**Doan MANUFACTURING CORP.**  
1761 LONDON ROAD • CLEVELAND 12, OHIO



# Perfection

## **CF** Clutch Plates



*assure customer satisfaction . . . profits for you!*

Look to your PERFECTION jobber for your clutch plate requirements. You can turn chatter and grief into praise and profits by standardizing on PERFECTION "CF" Clutch Plates.

These quality replacement clutch plates have patented formed and riveted cushioned springs designed to eliminate chatter and grab.

Other important features include balanced coil center spring which absorbs torsional vibration and transmission rattle . . . Full-float-ing hub won't pull out . . . Plate is completed with jointless and endless cord-woven facing, with standard BLMA drilling.

For details, consult your PERFECTION jobber, or write us.

*Perfection Gear Company • Harvey, Illinois*

PERFECTION PRODUCTS INCLUDE: Silent Timing Gears, Metal Timing Gears, Silent Timing Chains, Sprocket Gears, Transmission Gears and Parts, Differential Ring Gears and Pinions, Differential Cases and Parts, Fly Wheel Gears, Clutch Plates, Pressure Plates, Clutch Cover Assembly Parts, Clutch Forks and Parts, Clutch Throwout Bearings, Clutch Rebuilders.



# SUNNEN<sup>®</sup>

## PORTABLE CRANKSHAFT GRINDER

Do you have the dope  
on the new Sunnen  
Universal Crankshaft Drive?  
It's for automatic  
transmissions as well  
as standard.



...Grinds \$300<sup>00</sup> of Throws  
Every Month"

S. E. WATTERS, Service Manager  
Delta Chevrolet Company  
Greenwood, Mississippi

One Of Mississippi's Largest Dealers

**Delta**  **COMPANY**  
DEALERS

GREENWOOD, MISS  
July 3, 1952

HAYNE C. WILLIAMS, PRESIDENT  
S. E. WATTERS, VICE-PRESIDENT  
A. E. HEIDELBERG, SECRETARY

PHONE 1361 - CORNER CHURCH AND GEORGE

Sunnen Products Company  
7910 Manchester Avenue  
St. Louis, Mo.

Gentlemen:

The following is a statement of performance record  
and history of our Sunnen Portable Crankshaft Grinder.

We purchased the Grinder in 1939 from D&H Auto Parts  
Company, Greenwood, Mississippi. Since that time we have  
experienced many years of trouble free service from this  
unit. Conservatively speaking, we grind twenty journals  
per month for which we get \$25.00 per Journal.

This operation consumes about one hour per job and we  
have no comebacks from inaccuracy and find that we grind  
to factory tolerances. Due to simplicity of operation we  
are not restricted to one operator, but have several men who  
can use this machine. Sunnen makes modification and  
improvements which we have adapted to our original machine  
so the equipment is always modern.

Considering a reasonable original purchase price and low  
cost of operation, the use of a Sunnen Crankshaft Grinder  
is a very profitable venture.

Yours truly,  
DELTA CHEVROLET COMPANY  
S. E. Watters  
Service Manager



**SUNNEN** PRODUCTS CO.

7919 Manchester Ave., St. Louis 17, Mo.

Canadian Factory: Chatham, Ontario

quarts and gallons for economy and easy storage. The manufacturer claims that a minimum of "elbow grease" is required to remove road film, tire, grease or rust spots. It is applied with a saturated cloth or pad. The cleaner is then allowed to "work" for a few minutes and then a second application is made before the first is completely dry. Stains are wiped off leaving the chrome clean and ready for polishing. A light coat of wax is recommended for further protection.

## 393. Electronic Tool

**Anco Instrument Division:** A new portable electronic instrument for locating sources of troubles in engines and other moving mechanisms, has been announced. Known as "Elec-Detec," this electronic



stethoscope locates friction noises in bearings, pistons, gears, ratchets, cams, clutches and other parts. It is stated the instrument uses a metal probe which serves as a microphone to locate the exact source of the noise. Noise impulses are transmitted through an amplifier to head phones. Sounds can be detected at low speeds that otherwise would be heard only at high speeds.

## 394. Paste Rubber

**Sanford Ink Company:** A new instant rubber which dries elastic and waterproof has been developed by this firm. This mending material is applied from a tube and spreads as a paste. When dry, it retains the advantages and characteristics of rubber. It is said to be waterproof, elastic, a good insulator and non-inflammable, and has good adhesive

power on rough surfaces such as cloth, where the liquid rubber can penetrate and adhere. The manufacturer states that this product is suitable for sealing and waterproofing automobiles and can be used for making electrical insulation, waterproof washers, gaskets and packing to fit the job.

## 395. Headlight Control

**Guide Lamp Div. of GMC:** An automatic headlight beam control is known as the Guide "Autronic-Eye." It is mounted behind the windshield and automatically dims headlights when a bright light approaches. It returns them to the bright beam as the car or cars pass. When driving on brightly lighted streets, the lights are automatically held on the lower beam. The Autronic Eye includes a photoelectric unit mounted on top of the instrument panel near the lower left corner of the windshield. An amplifier unit and power relay are mounted in the motor compartment. The standard foot switch is connected so that in one position it provides automatic control of the selection between the upper and lower beams of the headlights, and in the other position it keeps the headlights on the lower beam continuously. An over-riding switch permits the driver to switch from the lower to the upper beam if necessary.

## 396. Water Repellent

**Surface Protection Company:** A transparent, non-sealing, silicone type, water repellent for all types of fabrics has been announced. The product is said to be suitable for treating automobile convertible tops, drop cloths, fender shields and shop clothing. Known as "Shield," it penetrates the fibers of fabrics, both natural and synthetic, and deposits the water repellent chemicals into the individual fibers without closing or sealing the weave. It does not alter the appearance or feel of the material. Shield may be applied to convertible tops by brushing or spraying and in either case it should be

(Continued on page 146)

Follow Watter's Example  
.. Increase Your Profits



Grinding crankshafts can be a profitable addition to your business. Many owners report that they have paid for their Sunnen portable grinder in as little as four months.

The Sunnen Portable Crankshaft Grinder takes its alignment from the motor block... produces the kind of precision you can be proud of. And with a reputation for grinding crankshafts accurately and quickly, you'll find that business all through your shop is better.

Here's why owners of the Sunnen Portable Crankshaft Grinder are so enthusiastic:

- Portable, grinds rod journals right in the car.
- Guaranteed accurate — no hit and miss.
- Wide range — 3/4" to 7" diameters.
- Easy to set up. Easy to use.

Write for complete information or ask your Sunnen jobber to arrange a demonstration.

Call your Sunnen jobber  
NOW...ask him to  
arrange a demonstration.





## New Products . . . . Continued from Page 145

applied heavily until the cloth is saturated. Once the cloth has dried, water will form large drops that stand on the material until they evaporate. Dip application in Shield is recommended for garments to obtain complete penetration.

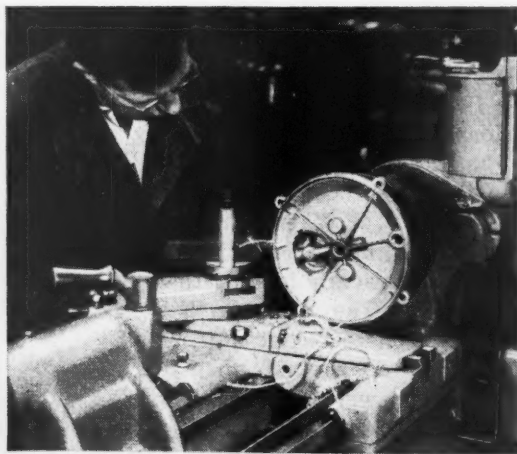
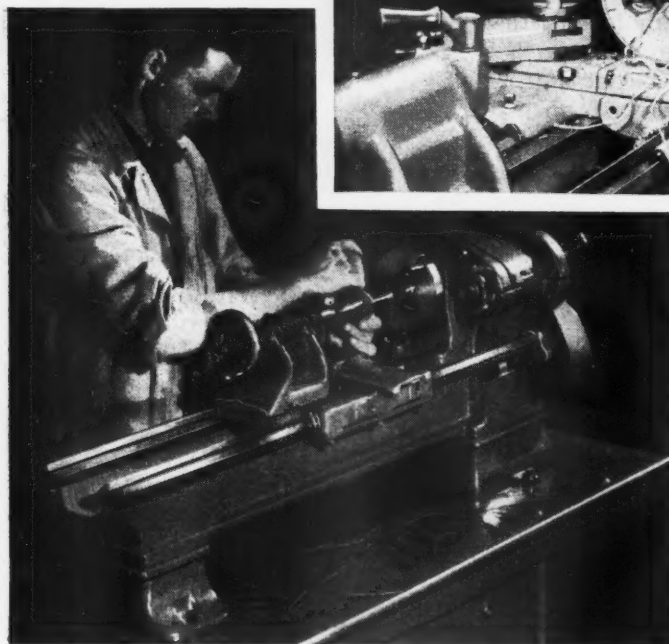
### 397. Soldering Set

Linde Air Products Co.: An im-

proved soldering and heating outfit especially designed for automotive body and fender repair work is now being produced by this firm. All necessary apparatus for soldering, heating and light brazing on cars and trucks is included in this outfit. Heating elements include four open-flame torch stems and a pointed copper soldering iron. Head sizes vary

from one for light soldering such as is needed for soldering wire connections, to a heavy stem used for loosening rusted nuts and bolts and suitable for heating and straightening bent automobile frames. The soldering iron handles any light work in locations where an open flame is not practical. All heating stems attach to a handle equipped with a pilot flame control unit built into the shut-off valve. This unit reduces the flames to pilot light size and saves fuel whenever work is stopped temporarily.

## SOUTH BEND LATHES








South Bend  
16" Quick Change  
Gear Lathe

South Bend  
10" Quick Change  
Gear Lathe

## Your Best Buy for Better Service Work

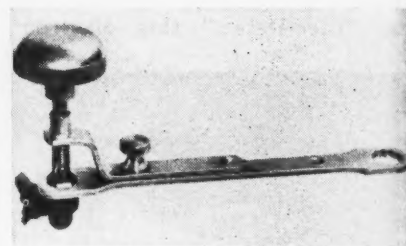
You get more for your money in South Bend Lathes. Each one, from the economical 9" to the big-capacity 16-24" model, will handle a surprising range of automotive jobs. And they will enable you to do better work because of their versatility and accuracy. Many attach-

ments are available for special classes of work which eliminate the need for expensive single-purpose machines. Put a South Bend to work in your shop and profit from the time it will save and the extra jobs you can handle. *Send coupon now for complete information.*

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|--|---|---|---|---|---|
| SEND INFORMATION CHECKED:  |   |   |   |   |   |
| <input type="checkbox"/>   |  |  |  |  |  |
| <input type="checkbox"/>   | 9" and 10" BENCH LATHES   | 10" to 16-24" FLOOR LATHES  | 1/2" and 1" Collet TURRET LATHES  | 14" DRILL PRESSES   | 7" BENCH SHAPERS  |
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| Street _____ City & State _____  |   |   |   |   |   |
| Building Better Tools Since 1906 • SOUTH BEND LATHE • South Bend 22, Indiana |   |   |   |   |   |

### 398. Tappet Tool

Zim Mfg. Company: Zim announces a heavy-duty tool designed especially for repair shop work on Buick, Nash, Chevrolet and 1952 Ford 6 cars. A principal feature is that the adjusting screw is never hidden from sight. No sock-



et or other tool is needed, except a feeler gage. The driver is supported by a swivel arm which swings from one opening to another. The wrench remains on the lock nut so that one hand is free to use the feeler gage, and the other to turn the screwdriver. The wrench has twelve openings for engaging the lock nut 5/16 inch at one end and 9/16 at the other.

### 399. Coater and Cleaner

E. W. Kemp Mfg. Company: "Tops" is the name of a new product designed to clean and copper-coat a cooling system. The manufacturer states that it does not contain anything harmful to the cooling, requires no neutralizer and has its own water pump lubricant. It is said to dissolve and loosen the dirt and then copper-coat the block, thus aiding in preventing future rust scale and corrosion. It is poured into the radiator and allowed to run for 200 miles or six hours steady driving after which time it is drained.

(Continued on page 150)

**Now YOU CAN FIT  
3,997 CARS with  
BEAUTIFUL Rankin  
SEAT COVERS in a  
choice of 3 Popular Colors  
from 1/3 the stock . . . . .**



**Rankin's  
GREAT NEW  
SELECT-FIT PLAN**

Get all the money-making facts on what this amazing new plan can mean to you. Investigate today. No obligation, of course.

**MAIL COUPON NOW**

**RANKIN MFG. CO., Dept. MA**  
Cedar Falls, Iowa

Rush me full information on your bigger-profit Select-Fit Plan right away without obligation.

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**RANKIN MANUFACTURING CO.**

CEDAR FALLS, IOWA • WICHITA FALLS, TEXAS  
BERKELEY, CALIFORNIA

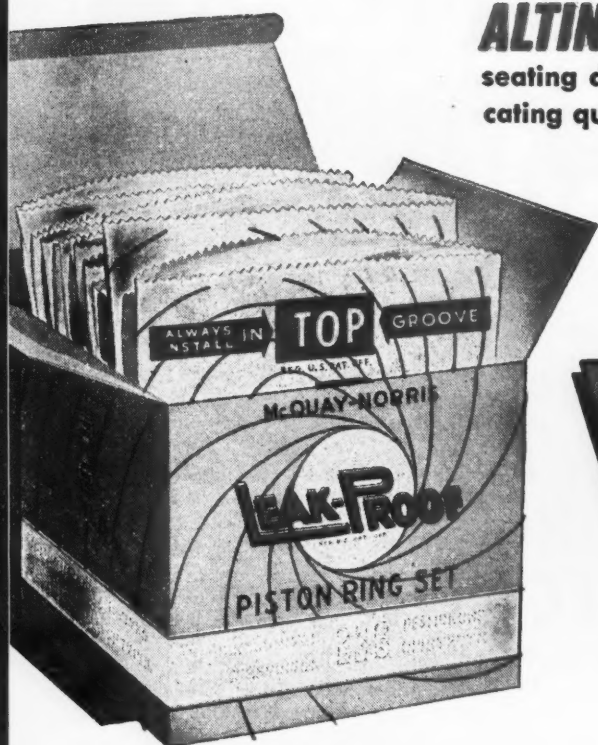
# PREVENT ACID

## *at No Extra*

**ALTINIZING** provides extra protection against acid action, scuffing and premature wear.

**ALTINIZING** assures quick seating due to its built-in lubricating qualities.

**ALTINIZING** is yours at absolutely no extra cost.



McQUAY-NORRIS  
**LEAK-PROOF**  
REG. U.S. PAT. OFF.  
**PISTON RINGS**



**McQUAY-NORRIS MANUFACTURING CO.**



# CORROSION

## *Cost!*

*Only*  
**McQUAY-NORRIS RINGS**  
*are* **ALTINIZED**



*Made for  
the Toughies*

THIS SET WILL OUTPERFORM  
ANY OTHER PISTON RING SET  
IN THE "HARD TO HOLD" JOBS  
REGARDLESS OF KIND, DESIGN  
OR PRICE.

## CHROME CONTROL

WITH NEW "400" OIL RING

ST. LOUIS 10, MO.

## 400. Parts Cleaner

**Petroleum Solvents Corp.:** Petisol 202 is a new metal parts cleaner which employs no caustic in its make-up. It is said to be harmless and non-toxic to the user and it will not etch or corrode metals and alloys of every type. It is a single-phase, cold-dip, emulsion cleaner which is claimed to remove gum,

grease, varnish, carbon and other similar deposits from carburetors and all metal parts.

## 401. Wrecker

**Champion Equipment Co.:** The Tow Champ Wrecker, Model 211 is designed especially for use in pick-up truck bodies. It has a 6000-pound power winch. The manu-

facturer states that this wrecker, when mounted on a pick-up truck will handle passenger cars and light trucks with ease. When used as a delivery truck, the extension boom can be telescoped into the main boom and either lowered to the floor or raised up against the super structure leaving most of the space in the body for carrying load. The apparatus can also be used for loading and unloading engines, tires and other heavy articles into the truck for hauling.

## 402. Hose Clamps

**Balkamp, Inc.:** Three sizes of Balkamp's new worm gear hose clamps fit all standard radiator and heater hose. The worm gear feature, it is pointed out, assures positive clamping action which is made especially convenient by the slotted hex bolts. The clamps can be tightened by either screwdriver, wrench or pliers. Other features claimed for this new clamp are extra long "take-up" and an open gear housing which is interlocked to the clamp strap.

## 403. Tail Pipe Cutters

**Herbrand Div. of Bingham-Herbrand Corp.:** A set of muffler and tail pipe cutters has been announced by this firm. One tool cuts internal and the other external. It is claimed that without damage to the good part, these tools will cut the metal in a clean, straight line, automatically freeing the frozen connections.

(Continued on page 154)

**\$200,000<sup>00</sup>**  
worth sold last month...

*did you sell  
your share?*

**GYRO**

**SKID-CONTROL**  
(T.M. REG.-PAT. PEND.)



**GYRO SKID-CONTROL**  
exerts instant  
counter-thrust  
to stop skids.



**GYRO SKID-CONTROL**  
damps vibrations,  
chatter and rattle.



**GYRO SKID-CONTROL**  
automatically acts  
to compensate for  
loss of traction.



**TESTED —  
PROVEN —  
ENDORSED**  
by safety experts,  
engineers,  
fleet operators,  
race drivers,  
and private owners.

**NOTICE!**  
Gyro Skid-Controls are  
made and sold only  
by Gyro Skid-Control,  
Company, Inc. Unau-  
thorized use of the  
name, sale or manu-  
facture is prohibited.

**GYRO SKID-CONTROL COMPANY, INC.**  
9238 WEST OLYMPIC BLVD., BEVERLY HILLS, CALIFORNIA

**JOBBER:** Phone or wire **\$39<sup>95</sup>**  
your order today. LIST



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*It pays to follow  
these lines because...*



# the fastest selling lines

## CARS • TRUCKS • TRACTORS • TRAILERS

### ADVERTISER

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*Firestone Tires*  
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*Fisk Tires*  
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 General Tire & Rubber Co., The •  
*General Tires; Kraft Recapping*  
 Goodrich Company, The B. F. • B. F. Goodrich  
*Tubeless Tires*  
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 Blades  
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 Atlas Press Company • Atlas Tools  
 Atlas Supply Co. • Atlas Batteries;  
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 Spark Plugs  
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 Dayton Rubber Company • Dayton Rubber  
 Products  
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 • Delta Power Tools  
 DeVilbiss Company, The • DeVilbiss  
 Spraying Equipment  
 Dietz Company, R. E. • Comet Lanterns

Your best customers trust  
 and prefer the automo-  
 tive products that travel  
 the Post road. That's why  
 they're the fastest-mov-  
 ing, most profitable lines  
 for you to stock and fea-  
 ture. Here they are:

NOTE: This list contains the  
 names of Post automotive  
 advertisers between June 30,  
 1951, and June 30, 1952

The Saturday Evening  
**POST** -gets

# are **POST** -advertised lines

Dinsmore Instrument Co. • **Dinamore**  
Auto Compasses  
Diston & Sons, Inc., Henry • **Diston Saws**  
Doan Mfg. Corp. • **Doan Econ-O-Mats**  
Dow Chemical Co., The • **Saran**  
Du Pont de Nemours & Co., Inc., E. I. •  
**Zerone; Zerex; No. 7 Polish; Du Pont Cooling**  
**System Cleaner; Spray Glaze**  
Eaton Mfg. Co. • **Eaton Axles**  
Electric Auto-Lite Co., The • **Auto-Lite**  
**Spark Plugs; Sealed Beam Lamps**  
Electric Sprayit Co. • **Elscro Spraying Outfits**  
Electric Storage Battery Co., The •  
**Exide Batteries**  
Electro Chemical Products, Corp. •  
**Eco Stop Shock**  
Fairchild Industries, Inc. • **Fairchild Tool**  
**Kits**  
Fedders-Quigan Corp. • **Fedders Radiators;**  
**Heaters**  
Federal-Mogul Service, Div. of Federal-  
Mogul Corp. • **Federal-Mogul Bearings**  
Filterzone Auto-Vision Co. • **Filterzone**  
**Sun Visors**  
Firestone Industries Products Co. • **Foamex**  
Firestone Plastics Company • **Velon**  
Firestone Tire & Rubber Co., The •  
**Firestone Batteries; Brake Linings;**  
**Accessories**  
Fram Corporation • **Fram Oil, Fuel, Air &**  
**Water Filters**  
Freeman & Freeman, Inc. • **Porcelanize**  
Fulton Company, The • **Fulton Sun Shields;**  
**Auto Accessories**  
General Electric Co. • **Calrod Engine**  
**Heaters; Headlamps**  
Goodyear Tire & Rubber Co., The •  
**Airfoam; Goodyear Batteries**  
Gould-National Batteries, Inc. • **National**  
**Batteries; Kathode Batteries**  
Grey-Rock Div. of Raybestos-Manhattan,  
Inc. • **Grey-Rock Brake Linings**  
Grizzly Mfg. Co. • **Grizzly Brake Linings**  
Guide Lamp Div., General Motors Corp. •  
**Autronic-Eye; Auto Accessories**  
Hastings Mfg. Co. • **Hastings Piston Rings**  
Hickethorn Mfg. & Supply Co. • **Columbus**  
**Shock Absorbers**  
Heat Div. of DeMert & Dougherty, Inc. •  
**Heat**  
Herbrand Div. of Bingham-Herbrand Corp., The  
• **Herbrand Tools**  
Holley Carburetor Company • **Holley**  
**Carburetors**  
Hull Mfg. Co. • **Hull Auto Compasses**  
Inland Rubber Corp. • **Inland Tire &**  
**Repair Material**  
International Mfg. Co. • **Rayline License**  
**Plate Frames; Guide Posts; Teddy Tot**  
**Auto Chairs & Cribs**  
Jacobs Mfg. Co. • **Jacobs Chucks**  
J & H Sales • **Erie Kargards**  
Johnson & Son., Inc., S. C. • **Car-plate;**  
**Carnu**  
Klean-Strip Co., Inc., The • **Klean-Strip**  
**Paint Remover**  
Knight Co., George C. • **Kiddie Drivettes**  
Las-Stik Mfg. Co. • **Polishing Cloths**  
Lester Products Co. • **Wico Car Lighters**  
Libbey-Owens-Ford Glass Co. • **E-Z Eye**  
**Safety Plate Glass**  
Lion Oil Company • **Nokorode Under-Seal**  
**Sealer**  
Lumite Div., Chicopee Mfg. Co. • **Lumite**  
**Mac's Super Gloss Co.; Mac's # 13;**  
**Cleaners; Glazes**  
Maremont Automotive Products, Inc. •  
**Maremont Mufflers**  
Marquette Mfg. Co. • **Marquette Arc Welders**  
Master Rule Mfg. Co. • **Master**  
**Measuring Tapes**  
McQuay-Norris Mfg. Co. •  
**McQuay-Norris Piston Rings**  
Metal Ware Mfg. Co. • **Safeway Electric**  
**Lanterns**  
Millers Falls Company • **Millers Falls Tools**  
Minnesota Mining & Mfg. Co. • **Underseal**  
Monowatt, Inc., Sub. of General Electric Co.  
• **Monowatt Handy Lites**

Monroe Auto Equipment Co. • **Monro-Matic**  
**Shock Absorbers**  
National Automotive Parts Assoc. •  
**Institutional Advertising**  
National Carbon Co., Div. of Union Carbide  
& Carbon Corp. • **Prestone Anti-Freeze**  
National Machine Works, Inc. •  
**Institutional Advertising**  
National Plastic Products Co., The • **Saran**  
Nelmor Corporation • **Nelmor Portable**  
**Spotlights**  
Nicholson File Co. • **Nicholson Files**  
Niehoff & Company, C. E. • **Niehoff**  
**Ignition Parts**  
Norjack Company • **Trailer Surplus Parts**  
North Brothers Mfg. Co. • **Yankee Tools**  
Owens-Corning Fiberglass Corp. • **Fiberglass**  
Ox Fibre Brush Co., Inc. • **Oxco Whisk**  
**Brooms**  
Parker Rust Proof Co. • **Bonderite**  
Peck, Stow & Wilcox Company, The •  
**Peck, Stow & Wilcox Tools**  
Perfect Circle Corp. • **Perfect Circle Piston**  
**Rings; Nurlizing Process**  
Petersen Mfg. Co., Inc. • **Vise-Grip**  
**Wrenches**  
Philco Corporation • **Philco Car Radios;**  
**Flashlights and Batteries; Polishes**  
Plastone Co., Inc. • **Turtle Wax Auto Polish**  
Plumb, Inc., Fayette R. • **Plumb Tools**  
Portable Electric Tools, Inc. • **Pet Electric**  
**Tool Kits**  
Presto Chain Co. • **Presto Chains**  
Prest-O-Lite Co., Inc. • **Prest-O-Lite**  
**Batteries**  
Proto Tools • **Proto Tools**  
PurOlator Products, Inc. • **PurOlator Oil**  
**Filters**  
Ramsey Corporation • **Ramco Piston Rings**  
Raybestos Div. of Raybestos-Manhattan, Inc.  
• **Raybestos Brake Linings**  
Ray-O-Vac Company • **Ray-O-Vac**  
**Flashlights; Leak Proof Batteries**  
Reading Batteries, Inc. • **Rebat Batteries**  
Robertshaw-Fulton Co. • **Robertshaw-Fulton**  
**Autostats**  
Rochester Products Div., General Motors  
Corp. • **Rochester Carburetors**  
Rust Master Chemical Co., The • **Rust**  
**Master for Cooling Systems**  
Screw Research Assoc. • **Phillips Screws**  
Sealed Power Corporation • **Sealed Power**  
**Piston Rings**  
Shakeproof, Inc., Div. of Illinois Tool Works  
• **Shakeproof Lock Washers; Sems Screws**  
**and Washers**  
Shetland Company, Inc., The • **Shetland**  
**All Purpose Polishers**  
Simoniz Company, The • **Simoniz and**  
**Kleener**  
Skilaw, Inc. • **Skil Tools**  
Smith & Son., Inc., Seymour • **Seymour**  
**Smith "Snap Lock" Plier Wrenches**  
Socony-Vacuum Oil Co., Inc. • **Permazone;**  
**Freezone**  
S. O. S. Company, The • **S. O. S. Scouring**  
**Pads**  
Spark-O-Liner Corp. • **Perry Cooling**  
**System Filters**  
Stanley Works, The • **Stanley Tools;**  
**Garage Door Equipment**  
Starrett Co., L. S. • **Starrett Tools**  
Stewart-Warner Corp. • **Stewart-Warner**  
**Motor Minders**  
Susquehanna Mills, Inc. • **Suskana Saran**  
Taylor Chain Company, S. G. •  
**TM Chains**  
Telechron Dept. of General Electric Co. •  
**Telechron Clocks & Timers**  
Thermoid Company • **Thermoid Brake**  
**Linings**  
Thompson Products Inc. • **Thompson**  
**Products**  
Timken-Detroit Axle Co., The • **Timken-**  
**Detroit Axles; Axle Parts**  
Timken Roller Bearing Co., The •  
**Timken Roller Bearings**  
Treglown Co., Inc., The • **Holt's Piston Seal**  
Tubing Appliance Co. • **Tac Ratchet Wrenches**  
U-C Lite Mfg. Co. • **Big Beam Lanterns**

Union Carbide & Carbon Corp. •  
**Institutional Advertising**  
United Motors Service, Div. General  
Motors Corp. • **Delco Batteries**  
Upholstery Leather Group, The •  
**Institutional Advertising**  
Uppson Brothers, Inc. • **Hold-E-Zee Screw**  
**Drivers**  
U. S. Electric Mfg. Corp. • **Usalite**  
**Flashlights and Batteries**  
U. S. Industrial Chemicals • **U. S. I.**  
**Anti-Freeze**  
Utica Drop Forge & Tools Co. • **Utica Tools**  
Vaco Products Co. • **Vaco Screw Drivers**  
Vatco Mfg. Co. • **Vatco Auto Seat Covers**  
Wagner Electric Corp. • **Wagner Brake**  
**Fluid; Auto Products**  
Walker Mfg. Co. of Wisc. • **Walker Oil**  
**Filters**  
Warner-Patterson Co. • **Warner Radiator**  
**Products; Liquid Solder**  
Western Auto Supply Co. • **Westcraft Tools**  
Westinghouse Electric Corp., Lamp Division  
• **Westinghouse Reflector Bulbs**  
Wico Electric Co. • **Wico Cigarette Lighters**  
Willard Storage Battery Co. • **Willard**  
**Batteries**  
Wix Accessories Corp. • **Wix Oil Filters**  
Wooster Rubber Co., The • **Rubbermaid**  
**Kar-rugs**  
Yale & Towne Mfg. Co. • **Yale & Towne**  
**Equipment**  
Yankee Metal Products Corp. • **Yankee**  
**Back-up Lights; Side-Vue Mirrors**  
Zecol Inc. • **Zecol Scum Remover; Wax**  
**Zink Corp., The Howard • Howard Zink**  
**Seat Covers**

## GAS • OIL • LUBRICANTS

### ADVERTISER

Amalie Div., L. Sonneborn Sons, Inc. •  
**Amalie Motor Oil**  
American Petroleum Institute, Oil Industry  
Information Committee • **Institutional**  
**Advertising**  
AP Parts Corp., The • **Miracle Power**  
Bardahl Manufacturing Corp. • **Bardahl**  
Casite Div., Hastings Mfg. Co. • **Casite**  
Cities Service Co. • **Institutional Advertising**  
Continental Oil Co. • **Conoco Motor Oil;**  
**Institutional Advertising**  
Ethyl Corporation • **Ethyl Gasoline**  
Fiske Brothers Refining Co., Lubriplate Div.  
• **Lubriplate Lubricants in Tubes**  
Freedom-Valvoline Oil Co. • **Valvoline**  
**Motor Oil**  
Gulf Oil Corp. • **Gulfspride Motor Oil; Gulf**  
**No-Nox Gasoline**  
Hollingshead Corporation, R. M. • **Whiz**  
**Motor Rhythm**  
Kendall Refining Co. • **Kendall—The**  
**2000 Mile Oil**  
Krylon, Inc. • **Krylon; Krylonizing**  
**Lubaid Co. • Lubaid**  
Macmillan Petroleum Corp. •  
**Institutional Advertising**  
Pennsylvania Grade Crude Oil Assoc. •  
**Institutional Advertising**  
Penzoil Company, The • **Penzoil Motor Oil**  
Pyroil Company, The • **Pyroil**  
Quaker State Oil Refining Corp. •  
**Quaker State Motor Oil**  
Shaler Company, The • **Rislone**  
Shell Oil Company • **Shell X-100 Motor Oil;**  
**Shell Research**  
Socony-Vacuum Oil Company, The •  
**Mobilgas; Mobiloil; Mobil-Care**  
Texas Company, The • **Fire-Chief Gasoline;**  
**Havoline Motor Oil; Marfak Lubrication;**  
**Sky Chief Gasoline; Texaco Products;**  
**Institutional Advertising**  
Tide Water Assoc. Oil Co. • **Veedol Motor Oil**  
Union Oil of California • **Royal Triton**  
**Motor Oil**  
Wolf's Head Oil Refining Co., Inc. • **Wolf's**  
**Head Motor Oil**  
Wynn Oil Company • **Wynn's Friction**  
**Proofing Oil**

# to the heart of America

## New Products . . . . Continued from Page 150

### 404. Caster Compensator

**Kwik-Ezee, Inc.:** A new size compensator for caster correction is designated as the "E-1/4 inch." It is a tapered shim of the size between that of "XE" and the "E-1/2 inch" compensator. It is used for making a caster correction on the front wheels of all vehicles having independent suspension, thus eliminating the necessity for bend-

ing steering knuckle supports and other front end parts to obtain caster correction.

### 405. Plug Gapping Tool

**Blue Crown Spark Plug Co.:** To provide accuracy in spark plug gap setting, a new tool is now on the market. Known as the "Gap-Rite," it measures 8 1/2 inches high with a handle 6 inches long. The base has

holes for bench mounting. Included with each Gap-Rite is a set of six thickness gages. The plug to be gapped is placed in the gapping tool, electrode end up. The proper gage for the gap size desired is inserted between the center electrode and the ground electrode. A tap of the hand on the gap tool handle drives the blunt-tipped device down upon the electrode, accurately setting the desired gap.

### 406. Replacement Choke

**The Pierce Governor Co.:** The Sisson Electrimatic Choke (electric choke) is designed to replace the automatic choke on any car so equipped. The manufacturer states that it requires no seasonal or climatic adjustments and cannot be effected by dirt or gum. It



utilizes a combination of electrical impulse and "controlled" thermostatic action. Pressing the starter button energizes an electro-magnet which instantly moves the choke valve to exactly the right closure required for easy starting at existing engine temperatures.

### 407. Lube Gun

**Lincoln Engineering Company:** An auxiliary high pressure hand gun for lubrication of passenger cars has been announced by this firm. It is said to crack frozen bearings without the use of a power operated gun. It provides pressures up to 10,000 p.s.i. The one-hand push action is designed to eliminate fatigue and the gun weighs two pounds. A long, hydraulic coupler extension permits reaching deep seated fittings. It handles all lubricants in any weather, the manufacturer states.

(Continued on page 158)

# make MORE business YOUR business



with



*The complete line for all grinders*

You can count on consistently dependable grinding when you buy Simonds Automotive grinding wheels... used by leading car makers—stocked by leading jobbers... and made by Simonds Abrasive Company, a major grinding wheel manufacturer for 60 years. Simonds wheels are made for *all* grinding machines, all grinding jobs. See your jobber.

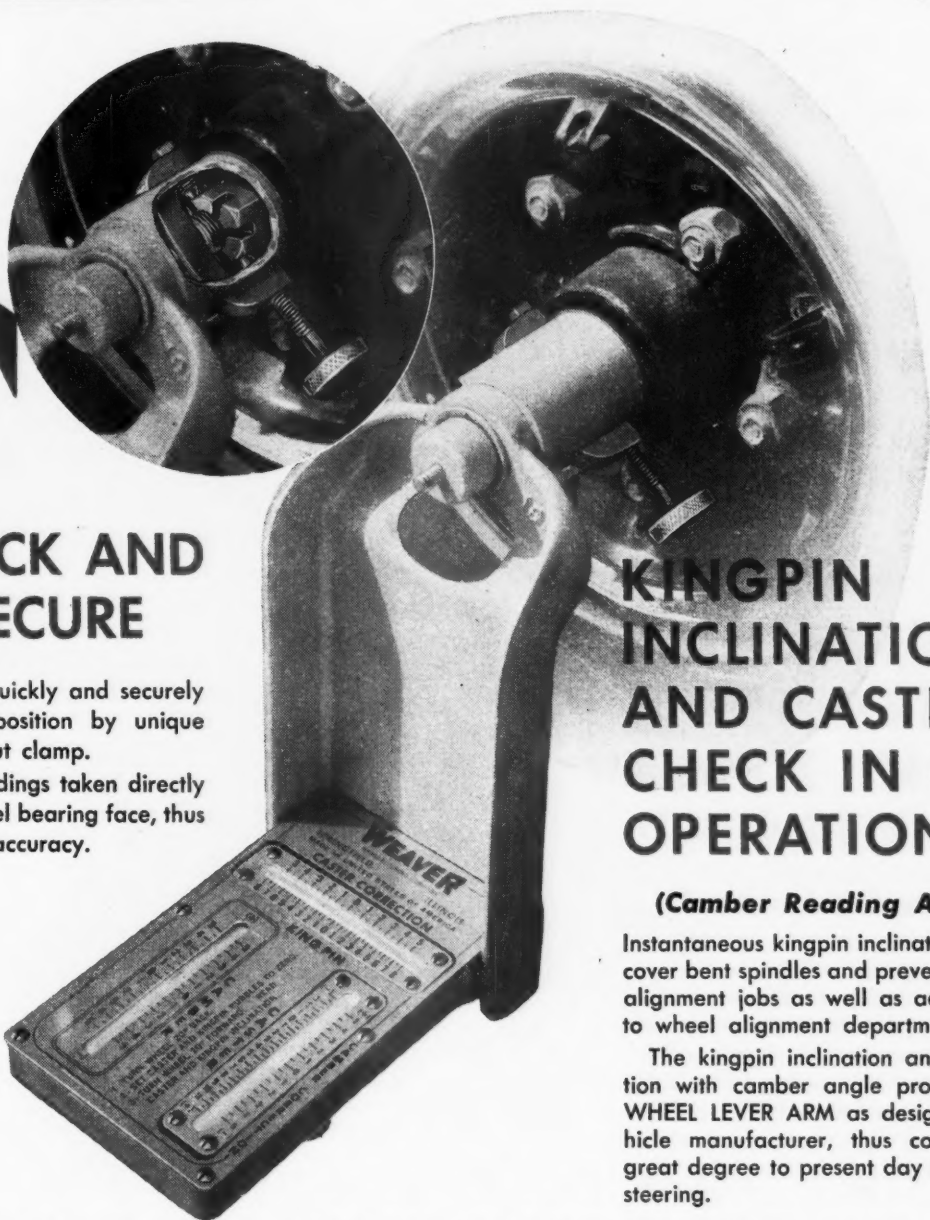
**SIMONDS ABRASIVE COMPANY**

Tacony & Fraley Streets, Philadelphia 37, Penna.



# **NEW! WEAVER**

## **3-WAY ALIGNMENT GAUGE**



### **QUICK AND SECURE**

Gauges quickly and securely held in position by unique spindle nut clamp.

All readings taken directly from wheel bearing face, thus assuring accuracy.

### **KINGPIN INCLINATION AND CASTER CHECK IN ONE OPERATION**

#### **(Camber Reading Automatic)**

Instantaneous kingpin inclination readings uncover bent spindles and prevent unsatisfactory alignment jobs as well as adding materially to wheel alignment department revenue.

The kingpin inclination angle in combination with camber angle provides a definite WHEEL LEVER ARM as designed by the vehicle manufacturer, thus contributing to a great degree to present day easy, shock free steering.

### **ALIGNMENT CORRECTIONS MADE EASIER AND FASTER**

Gauges remain in normal operating position to provide a fast, accurate means for micromatic and simultaneous adjustment of camber and caster either by built in vehicle adjustment or by correction tools.

**ASK YOUR JOBBER TODAY TO SEE THE NEW WEAVER "WJ-55 GAUGE." NOW IN PRODUCTION**



**WEAVER MANUFACTURING CO., SPRINGFIELD, ILL., U.S.A.**

### **SERVICE SHOP EQUIPMENT**

Complete Weaver line includes—Twin Post Lifts...Unit Lifts...Wheel Alignment Equipment...Head-light Testers...Brake Testers...Wheel Balancing Equipment...Jacks...Dollies...and Air Compressors.

There is a difference in sealed-

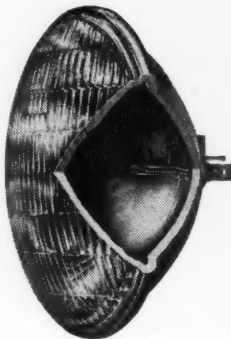
...and this is it—

**W**HEN moisture collects inside a headlamp and deteriorates the reflector, it cuts light output. Unless your headlamps are All-Glass, you may be able actually to see traces of moisture inside.

But there's one way to be *sure* your headlamps are not growing dim. Replace them with G-E All-Glass headlamps. Because they're *All-Glass*, all one big bulb, there's no way for water to get in.

Tests show that General Electric sealed-beam headlamps average 99% as much light after years of service as when new.

**REMEMBER:** To make extra dollars this Fall, check all the lamps on cars left for changeover service. It's easy, takes only a few minutes . . . and pays off in profitable sales of G-E tail lamps, dash and dome lamps as well as headlamps. Surveys show 1 car out of 3 needs at least one lamp replaced.



All-Glass sealed-beam headlamps

ed-beam headlamps



ps do not grow dim

*You can put your confidence in—*

**GENERAL**  **ELECTRIC**



## New Products . . . . Continued from Page 154

### 408. Service Organizer

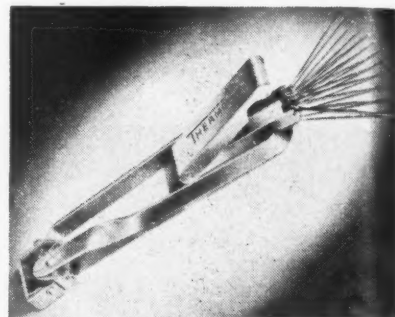
**The Klee-Flo Company:** A product designed especially for service departments and incorporating two clock dials, is known as the service organizer. It indicates to the service manager at a glance, the amount of work in the shop and the amount of progress of the job. Service Organizers are set up

in "banks" at the service manager's desk. He estimates the time required for completion of the work assigned to an individual mechanic, setting the large clock dial for the time of day when the mechanic's work will be completed. A small clock dial is set for the estimated completion of the current job and is moved forward on

completion of every job. Insert panels are provided for the mechanic's name. Job assignments are inserted in the six compartments provided.

### 409. Welding Accessory

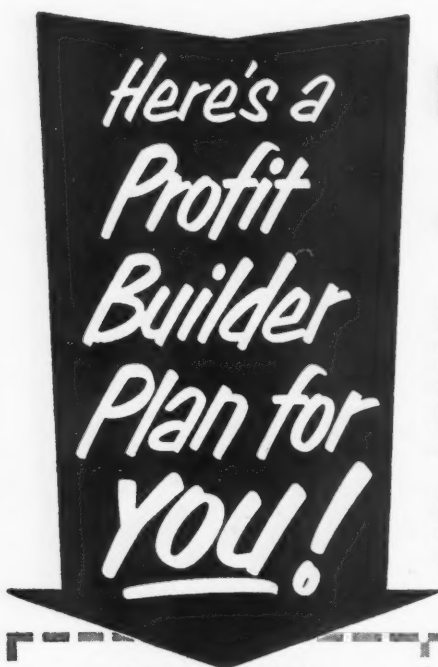
**Thermacote Company:** A combination of a three flint spark lighter and tip cleaners in one tool



has been developed and is now being marketed under the name of Tip-O-Liters. This product has a case of 12 spiral-tipped cleaners attached directly to the handle of the three flint spark lighter in one unit. The three flint lighter is said to give three times the normal number of lights before replacement is necessary. The spiral ribs of the cleaners are said to eliminate frequent breakage and allow the removal of carbon and slag without scratching or enlarging the orifice of the torch.

### 410. Masking Tape

**Continental Tapes:** Continental Red Tape is a trade name for a new line of masking tapes available in either red or natural color.



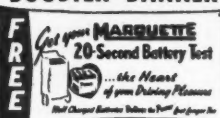
## MARQUETTE

### OFFERS THIS 6-POINT PROGRAM!

Six potent sales helps, to help you increase your battery charging and battery replacement business! And once you've got 'em in for a free battery analysis, the door is wide open for extra sales... anti-freeze, grease job, oil change... full winterizing! That's how your Marquette charger can pay off handsomely for you.

Marquette hasn't overlooked a bet in planning this hard-selling "profit builder" plan, designed to help you in your own locality! Have you got it? Ask your jobber for full details.

#### BOOSTER BANNER



#### BIG "TEASER" BUTTONS



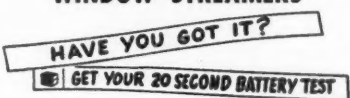
"Got what?" asks he. "Pep in your battery" says you. And you're all set to sell.

#### COLD WEATHER CHECK CHART



Here's the gadget that sells full winterizing. A real profit builder!

#### WINDOW STREAMERS



#### NEWSPAPER... RADIO



Newspaper ad mats and radio scripts tailored for you at the local level.

#### GIANT POST CARDS



A direct invitation to your customers, right from you. It pulls 'em in.



**MARQUETTE MANUFACTURING CO., INC.**

307 East Hennepin Ave., Minneapolis 14, Minnesota

BATTERY CHARGERS • TOW CRANES • WELDING EQUIPMENT



"What kind of service do you call it if you can't fix this ticket that policeman just gave me?"

# Globe-Union Posts

help make your customers "battery happy"

**"NONSPILL" safety vents** prevent acid spilling over — protect adjacent vehicle parts.

**PEBBLED SURFACE** and staggered construction of interlocking V-shaped grid bars hold superactive oxides in place — assure longer life.

**HIGH-POROSITY separators** permit quick release of power.

**CHEMICALLY SET plates** promote more power, prolong battery performance.

**ONLY GLOBE BATTERIES** have rubber bushings on all posts — sealing covers for the life of the battery.

This shock-proof construction eliminates cover breakage and chipping away of sealing compound . . . avoids snapping of terminals. Exclusive design permits use of full-size posts below the cover. Plate life is extended because of reduction of vibration — assuring GLOBE customers of the most for their battery dollar.

If it's engineered and made by Globe Union—it's **RIGHT FROM THE START**

Globe-Union builds quality batteries for original equipment and for mass merchandising under the trade names of GLOBE SPINNING POWER and leading private brands.

**GLOBE-UNION**

## GLOBE-UNION INC. MILWAUKEE 1, WISCONSIN

Battery Production Plants At: ATLANTA, GA. • BOSTON, MASS. • CINCINNATI, O. • DALLAS, TEX. • EMPORIA, KANS. • HASTINGS-ON-HUDSON, N. Y. • LOS ANGELES, CALIF. • MEMPHIS, TENN. • MINERAL RIDGE, O. • OREGON CITY, ORE. • PHILADELPHIA, PA. • REIDSVILLE, N. C.

## New Products . . . Continued from Page 158

The tape comes in 1/2 inch to 36 inch widths, 180 inch rolls. Packed with the equivalent of 1800 inch to the case, rather than the usual 36 inch packing, Continental Red Tape is said to permit the large or the small user to keep fresher, cleaner stock. The center partition separates the carton in half giving dust seal carton. Continental Tape

is dated for freshness, the user being assured of always having fresh tape and not having to worry about old tape having to go stale on the shelf.

### 411. Bumper Jack

Walker Mfg. Company: A new automobile bumper jack has been announced which is claimed to

reduce lifting effort as much as 47 per cent. It automatically fits the deepest-skirted bumper. The manufacturer claims that the new Walker "400" bumper jack lifts the heaviest passenger car easily and

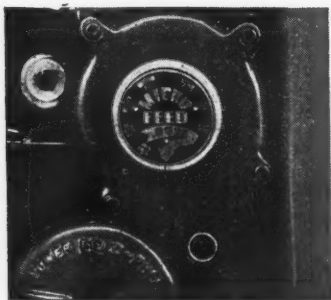


safely due to a "counter-acting" roller principle in the lifting mechanism and a new "adjust-o-matic" lifting hook.

## Low Cost... Big Capacity

Pays for itself in 120 days  
on only 5 sets of drums a week

New! Exclusive MICROFEED



A finished surface in one pass of the cutter . . . SAVES HOURS OF TIME formerly required by additional grinding and turning.

- ✓ Exclusive Microfeed—A single finish cut up to .050" in depth at .0025" feed is now possible. Eliminates the extra time required on other drum lathes to take a rough and finish cut.
- ✓ Finish obtained with Microfeed surpasses factory standards for drum finish. No further grinding required.
- ✓ Heavy-duty tool post compound and extra long tool bar for cuts up to 7 1/2" in depth. Full carriage travel 9 1/4".
- ✓ Choice of 8 feeds plus 3 spindle speeds of 46, 92, and 184 r.p.m.
- ✓ Cross slide and carriage move on hand scraped dovetailed ways.
- ✓ Timken Bearing Mounted spindle and worm drive.

# LEMPCO



Paste on postcard for quick reply

### Just off the press!

Fill in coupon for your copy of "505" new illustrated catalog that tells about this outstanding drum lathe and how you can use it for several other shop purposes.

**LEMPCO PRODUCTS, INC.**  
Bedford, Ohio

Gentlemen: Send copy of Catalog 505

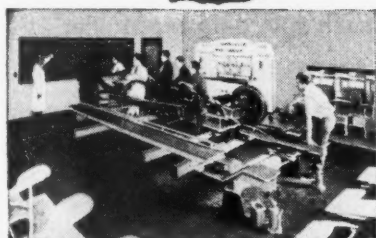
Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_

FOR 35 YEARS A LEADING BUILDER OF MACHINE TOOLS

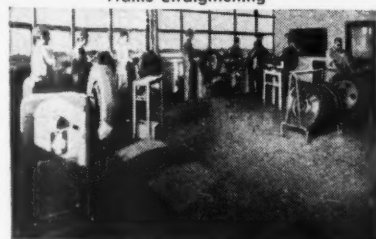
### Adverse Publicity Turned Into Good Public Relations

How adverse publicity in the newspapers on alleged gouging by automotive service shops can be turned into good public relations by alert and intelligent action was demonstrated recently by the Automotive Maintenance Association of Michigan. In a letter to a columnist for a Detroit daily, a correspondent complained that she had been victimized by large garage bills for repair service and parts which were unsatisfactory. John M. Spath, executive secretary of the association, promptly wrote the columnist that his organization might be in a position to assist the complainant, since in the past it had investigated similar charges of unethical practices and had arranged satisfactory settlements. His letter, which was published in the column, asked that the aggrieved correspondent be referred to his association, or call Mr. Spath directly, giving his address and telephone number.

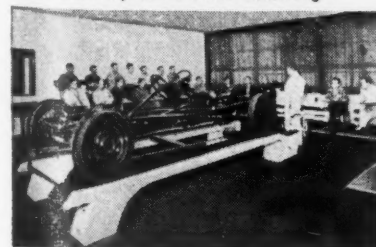




Students learn the fundamentals of Frame Straightening



Every student learns how to master Static-Dynamic Wheel Balancing



Fundamentals of Wheel Alignment are explained in lecture sessions

Do a better job than the next fellow and you'll keep old customers happy and coming back for more—and you'll pick up plenty of new ones. That's the simple secret behind the success of thousands of "Bear" Equipped Shops. And back of it all is the famous "Bear" Training School in Rock Island.

This School is an exclusive "Bear" Service offered for just one purpose—to help "Bear" Shops make more money. With "Bear" you offer your customers one of the most complete up-to-date shops in town plus the selling power and efficiency of factory-trained experts.

Every alignment, balancing or frame straightening job turned out by a "Bear" Graduate is a *better* job—because that mechanic knows what his equipment will do and how to use it properly. He is up-to-date on the latest factory-approved methods.

Today, with the manpower situation tightening up, "Bear" is ready to do more than its share in helping to provide enough trained mechanics to

meet the increasing demands of the automotive service industry.

If you have "Bear" Equipment, it will pay you to work out some plan to see that at least one man in your shop gets this training. Your "Bear" Representative or Jobber can show you how other shops have worked it out on a low-cost basis, or, write to Education Department

BEAR MFG. CO., Dept. M-1, Rock Island, Illinois

### **PAYS OFF for both Mechanics and Shop Owners!**

Complete courses for both beginners and experienced mechanics in Wheel Alignment, Balancing, and Safety Inspection Service.

- Length of courses range from 2 days to 4 wks.
- Costs only a few dollars per week.
- Includes both practical shop and classroom training.
- Modern audio-visual methods in teaching.
- Courses are kept up-to-date for new cars and new tools.
- Approved for G. I. Training

**FREE** booklet tells you how to enroll, outlines courses, and gives you all the information you want to know before enrolling. Send for your copy today!



# "BEAR" SAFETY SERVICE

# *Soundmaster* FITS

...NOT 1,  
NOT 2, BUT  
ALL 3 WAYS!



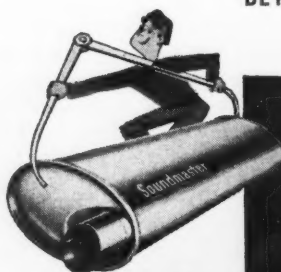
## 1 HORSEPOWER FIT

For every engine, there is an established, correct back pressure limit. Excessive back pressure above that level steals power, wastes gas, leads to sludging and engine re-

pairs. That's why each Soundmaster Muffler is engineered for correct back pressure on each specific make and model—never above the accepted limit—for all the power the car can deliver!

## 2 MECHANICAL FIT

Length, size and shape of shell . . . size and location of inlet and outlet . . . all are engineered specifically for a particular car. Result: Soundmaster mechanical fit spells Fast Installation Time—more profit on every job.



## 3 ACOUSTICAL FIT

Soundmaster Mufflers are engineered to control not only total exhaust noise on a given car, but also the individual, irritating sounds which occur at different speeds and loads. Result: "full-range" noise control!



DE KOVEN MANUFACTURING COMPANY • RACINE, WIS.

*Soundmaster*

MUFFLERS FIT  
ALL 3 WAYS!

**SAFER  
STOPS**

## DELCO LINED BRAKE SHOES

Delco's combination of the original equipment lining correctly installed on dimensionally true shoes makes *brake* customers *satisfied* customers. Replace with Delco lined brake shoes—the brake shoes made to original equipment standards. Sets of Delco lined brake shoes are available for General Motors cars and light trucks. Order from your nearby United Motors distributor.

**...WITH THESE  
FAMOUS PRODUCTS**



### THE BEST BRAKE FLUID

Two Delco brake fluids . . . Super 9 and Super 11 . . . serve vehicles—from light cars to the heaviest trucks and buses. Delco Brake Fluids *exceed* SAE specifications. Packed in 8-ounce bottles to 54-gallon drums. Order from your United Motors distributor.



### DELCO BRAKE REPAIR KITS

Delco Master Cylinder Repair Kits, left, and Delco Wheel Cylinder Repair Kits are excellent shelf items, good sellers in every market. Order from your United Motors distributor.

**MORaine PRODUCTS  
DIVISION OF  
GENERAL MOTORS  
DAYTON, OHIO**



**DELCO BRAKE—A UNITED MOTORS LINE**  
Available Everywhere Through  
**UNITED MOTORS DISTRIBUTORS**

**Moraine**

**DELCO SUPER 9 AND SUPER 11 BRAKE FLUIDS • DECLINE  
BRAKE PARTS • ENGINE BEARINGS • GASOLINE FILTERS  
STANDARD FOR EQUIPMENT • THE STANDARD FOR REPLACEMENT**





## "3M D.O.O.F.\* Month gave me 100% service absorption!"

\*GET-THE-DENTS-OUT-OF-YOUR-FENDERS Month has an enthusiastic supporter in General Service Manager GLENN GAFF of Fort Wayne, Indiana.

Says Mr. Gaff "... we at Allen County Motors, with the help of 3M's big June advertising promotion, increased our body repair business to 100% service absorption for the first time this year.

"Thanks to Get-the-Dents-out-of-Your-Fenders Month, our service salesmen are now conscious of all body damage coming through our Service Department."

Glenn Gaff, like thousands of other refinishers, multiplied his business through this latest 3M Service promotion. How did your autobody department do?

### HERE'S GOOD NEWS!

YOU CAN CONTINUE TO BOOST YOUR BUSINESS ALL YEAR AROUND... WITH THESE OTHER FAMOUS 3M PROMOTIONS...

1. **3M SYSTEM OF APPEARANCE RECONDITIONING**—shows you how to do better work in less time—every time.
2. **3M 3-WAY PLAN**—shows you how to get more business, make more profits through: active body shop promotion, systematic water leak repairs, "Underseal" sales.
3. **3M WALLCHART PROGRAM**—shows your customers all the steps, skills and materials required for factory-new refinishing. Proves your jobs are well worth the price.

Ask your 3M Salesman for complete material

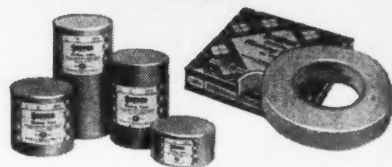
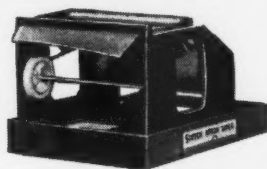
Made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotch-lite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

Do better, faster work with the complete line of 3M Refinishing Products!

#### "3M" ABRASIVES



#### "SCOTCH" MASKING PRODUCTS



#### "3M" ADHESIVES





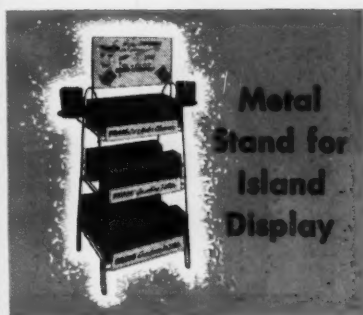
# Rake in more profits with this big FRAM FALL CHECK-UP Program!

**Tie-in NOW for bigger Cartridge sales!** This big FRAM Fall Check-up Program is especially designed to send your sales of cartridges and other change-over items *skyrocketing!* All the profit-building sales aids shown here are available to you with special FRAM merchandise assortments. Make sure you take advantage of this great opportunity to *rake in more profits.* Call your FRAM Distributor today and tell him you want to tie-in with the big FRAM FALL CHECK-UP Program!

FRAM CORPORATION, Providence 16, R. I.  
In Canada: J. C. Adams Co., Ltd., Toronto, Ontario



**Sludge Syphon  
for Quick  
Cleaning  
of Sump**



**Metal  
Stand for  
Island  
Display**

**Cartridge  
Dispenser  
for Lube  
Room**



**3-Dimensional  
Window Display**



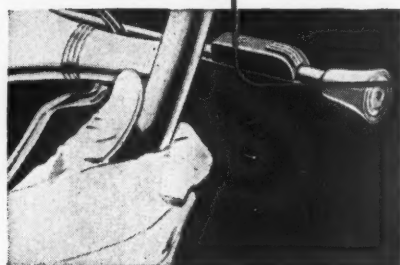
**Special Merchandise  
Assortments**



**Hard-  
Selling  
Window  
Posters**



# Backsliders... Beware!



→ Every driver is a

## ready prospect for the WICO Autostop!

It happens on hills. Even on *little* hills. It happens to *you*!

Whether you are on the receiving end, or the backslider, the results are the same. Riders in both cars are shaken up . . . sometimes, bumpers are locked . . . other times, damage is considerable.

There's no backsliding in a car equipped with a Wico Autostop. When you stop on a hill—or on the level—the Wico Autostop makes the car stay put. It just can't roll backward. Or creep forward.

Suppose *you* drive with a Wico Autostop. You brake to a stop as usual, and touch the magic switch on the gearshift or selector lever. The car stays put! When you're ready to go, step on the gas and the brakes release automatically.

*You don't have to keep your foot on the brake. And there's no need for riding clutch or accelerator.*

Practically every car owner is a prospect for a Wico Autostop. Here is a brand new opportunity for you to sell a profitable item—not a gadget, but a real necessity. And one demonstration can make the sale. Write us *now* about the MONEY-SAVING DEMONSTRATOR OFFER that makes it easy to show your customers *all* the Autostop advantages. To show 'em is to sell 'em!

Each Wico Autostop kit contains complete illustrated instructions. Average installation time: 1½ hours.



Manufacturers of Magneto and the "Puff-a-lite" Automobile Lighter

**WICO ELECTRIC CO., West Springfield, Mass.**



you cannot buy better products than P & D

P&D field men keep your stock **BALANCED** by periodical checking.

**P & D Manufacturing Co., Inc.**

Established 1920

19-02 Steinway St., Long Island City 5, N. Y.

### TIME-SAVING RIDGE REAMER

**WILL NOT UNDERCUT**

The principle of removing the ridge is same as employed when using an expansion reamer; result, a smooth wall surface!

**CARBOLY TIPPED CUTTER BLADE REQUIRES LESS SHARPENING**

**Features**

- Quick and easy operating
- Simplified construction
- Longer life Cutter Blade before sharpening

Range of sizes 2⅜" to 4⅛" incl.

**NET PRICE \$9.90**

The Carboly tipped cutter blade will remove ridges in Ford Steel Sleeves without damage to the Cutter Blade.



**ALL-POWER MFG. CO.,**  
THE MONTEBELLO DIV.  
MONTEBELLO • CALIFORNIA



## ing packages

ings stack well in freezer? If they are of the packages falling. Also, they are packed by stacks, making the food easier to handle.

the maximum use of freezer space. Rectangular or square containers are as round containers. If you are an important consideration.

mer's first fruits and vegetables.

section of stalks for table; remainder for white woody cut. Pressure-cook for 10 minutes. 3. Blanching by steam. Steam-blanch small cut up) 3 1/2 minutes; 4 1/2 minutes. If you blanch small stalks, 4 minutes. 6. Chill 3 to 5 minutes. 7. A top-opening package is best for peas. Any type of freezing carton is suitable vegetable.

### Spinach

A more tender spinach is obtained in spring than in winter.

1. Cut when leaves are tender. 2. Wash thoroughly in running water to rid of dirt. 3. Steam-blanching is best. So water-blanching is a time for 2 1/2 minutes. 4. Drain in a colander or basket. 5. Pack in any type of freezing container.

### Peas

Then as Huxter, variety for freezing. In regions where it is difficult to grow any deep green, large garden variety will be a product. 1. Do not freeze old, tender, slightly mature are better for the freezer. 2. Pod 4 or 5, green, do not wash after. 3. Water-blanch about 3 minutes. The time depends on size of peas. Blanch small peas; large peas, 3 to 4 minutes; large peas, 4 to 5 minutes. 4. Drain immediately in a colander. 5. Fill any type of vegetable container full, clean. 6. Freeze immediately.

BYRON HOMES & GARDEN



**Putting Our Cars on the Table.** After a GM car has been tested for 25,000 miles, it is completely disassembled. Parts are laid out on long tables and GM engineers inspect piece by piece to find which parts need further improvement—a process that goes on continuously to find ways to make GM cars better and better.

## What happens at our proving grounds?

Our General Motors engineers look upon proving grounds as places where they can duplicate the typical conditions a vehicle will meet in actual service—and, by round-the-clock operation, get quicker answers than you can get otherwise.

GM built the world's first automobile proving ground at Milford, Michigan—and cars have traveled a total of 122,228,000 test miles there in the past 28 years.

We have another in Arizona, where our engineers can duplicate desert conditions. Our third is for military vehicles—which we believe should be pretested with all the care devoted to developing things we build for the general public. The three together total 4,787 acres of proving ground.

All of which is one example of the engineering thoroughness which enables us to say, the key to a GM car is your key to greater value.



Your Key to Greater Value—The Key to a General Motors Car

**GENERAL MOTORS**

"MORE AND BETTER THINGS FOR MORE PEOPLE"

CHEVROLET • PONTIAC • OLDSMOBILE • BUICK • CADILLAC  
BODY BY FISHER • GMC TRUCK & COACH

Meet HENRY J. TAYLOR on the air every Monday evening over the ABC Network, coast to coast.



**Stopping 45 Tons on a 60% Hill.** It takes a more powerful, durable brake than we'd ever built to do this job—and how our engineers did it is still a military secret. It also takes special springing, special applications of GM's torque-converter transmissions, and other engineering features to get tanks and trucks to stand up under combat conditions.



**Riding the Altitude Range.** Our Arizona proving ground, plus desert and mountain highways, gives GM engineers a chance to check engine performance from 140 feet to 10,000 feet above sea level—and thus better all kinds of things—from cooling systems to carburetors.

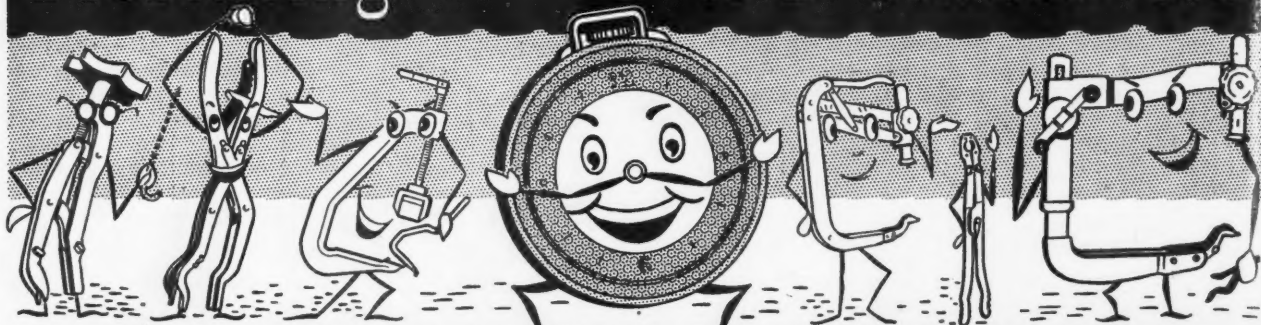
# Proving your Point

By telling "What Happens At Our Proving Grounds," this latest "Key" campaign advertisement gives further factual support to your General Motors sales argument.

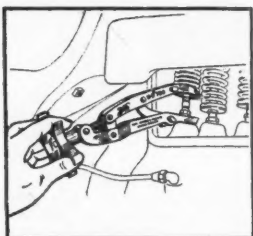
For it highlights the thoroughness of GM engineering with a group of interesting pictures and facts about a subject of prime interest to the car buyer. And this supplies additional "reasons why" the key to a GM car is the key to greater value.

Like all GM "Key" campaign advertisements, this will appear in the leading national magazines—usually in color—often in two-page spreads.

# Presenting...Your K-D Timesavers



## 700 Lifter for L-Heads



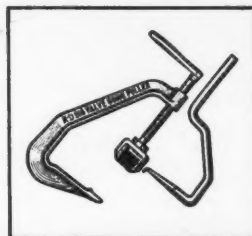
Popular "shorty" handwheel type lifter for hard-to-get-at valves. Speeds the job on all Chrysler-built and other low hung L-heads. Also for Ford 6 cyl. passenger 1948-51 incl. Only 8" long.

## 600 Lifter for L-Heads



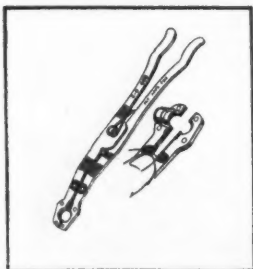
Old favorite for L-heads old and new. Parallel jaw action. Automatic ratchet lock holds lifter in place, allows free use of both hands. Also for Industrial and Marine engines.

## 920 Set for Ford V-8s



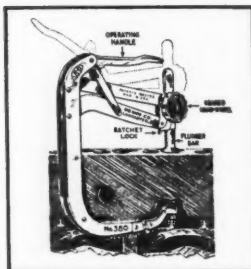
Pulls valve guide assemblies FAST, no matter how tightly stuck. 917 removes retainers; 918 pulls assemblies. For all Ford built V-8s since 1932 except 60 hp, and late 150 hp Trucks & Lincolns.

## 608 Inserter



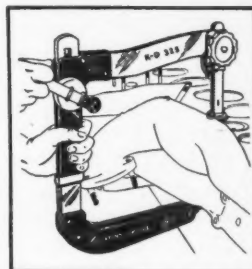
Specially designed to replace the one size split keeper now used on most all present motors (including Ford and Chrysler!). Light, easy loading, self-supporting on valve stem.

## "Universal" 380 Compressor



Will service over 85% of all your calls —L-head or valve-in-head engines, old or new (including "Rocket" engines and 1952 Ford 6 overhead valves). Fast, safe, strong. One man operated.

## 325 Compressor for BIG Jobs



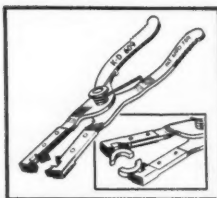
Get it for big truck, bus, tractor motors. One man can operate this rugged, deep throated tool on most engines (L- or valve-in-head) with manifolds in place. Fast and versatile.

## 335 CADILLAC Compressor



For shops specializing in Cadillac service. For all V-8s 1936 to 1949. Service both banks of valves without walking from side to side.

## 609 MAGNETIC Inserter



Specially designed to handle large, split collar type keepers used on late model Ford-built free type valves (150 hp V-8, 110 hp 6 cyl. truck).

Write for Free copy of K-D Catalog. Over 100 Tools described and illustrated.



# K-D TOOLS

K-D MFG. CO.  
LANCASTER, PA.

# NEW!...IMPROVED!



**HEAVY-DUTY PLUS! Increased detergent action!**  
**Meets military specifications (MIL-0-2104)**

**Keeps Engines**  
**New...longer!**

Exceeds All car manufacturers' recommendations for  
All passenger cars.

**CUSTOMERS STAY WITH YOU WHEN YOU SELL SUNOCO PRODUCTS!**



EDDIE CANTOR

June 12, 1952.

Mr. Walter Sullivan,  
50 Allston St.,  
Cambridge, Mass.

Dear Mr. Sullivan:

A friend of mine in the automotive business tells me you Automotive Salesmen think you're a pretty tough bunch. You sometimes growl at each other, you're not above straining an elbow now and then, your language is not always lady-like, and so on.

I know better. I've seen you big "bullies" in action.

When you found that the guy next to you needed some help — when you learned that he was worrying because his relatives and friends were up against it — well, you just said "So what! We'll all pitch in and help."

It didn't matter to you that he was not of your church, that perhaps he was Jewish and his relatives and friends were in Israel struggling for their lives. You just said in your hard-boiled way "Aw, shadup and let's get started. We'll help get them on their feet."

In my book, you're a wonderful gang, you Automotive Salesmen. America and the world are better off because of you. Your Jewish friends will never forget your help and hard work on behalf of the Christian Automotive Division of the United Jewish Appeal. On behalf of U.J.A., I say, God bless you all!

Sincerely,

*Eddie Cantor*

Eddie Cantor, Chairman,  
National Leadership Mobilization  
UNITED JEWISH APPEAL

EC:bs

September is U.J.A. Month. Christian Automotive Division. When you are called on for a donation or pledge, give generously to this worthy cause.



## KEY TO CUSTOMER SATISFACTION

Precision-made DeVilbiss products—Spray Equipment, Exhaust Systems, Air Compressors and Hose—simplify refinishing problems and insure professional results. With them you can turn out factory-quality finishes and build greater customer satisfaction.



*Over-all auto refinishing with DeVilbiss equipment is just one of the highly profitable spray-appearance services.*

# You'll profit from all 7 of these spray-appearance services

1. Over-all vehicle refinishing
2. Vehicle touch-up jobs
3. Spraying chrome protective material
4. Spraying underbody coatings
5. Spraying upholstery reconditioners
6. Spraying waxes
7. Spraying flock coatings

**Every one** of these 7 spray-appearance services is a money-maker. It

simply doesn't pay to try and get along with makeshift, inadequate equipment to handle these services when the cost of equipping your shop with DeVilbiss spray equipment is so amazingly low.

**You'll reap** the benefits for years to come. Records prove appearance services can easily account for *one-third* of service department volume.

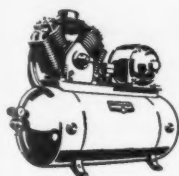
**Your local** DeVilbiss Jobber or branch office will gladly give you detailed information or, if you prefer, write us direct.

## A New Service!



Now—exchange worn-out guns, bare compressors for guaranteed factory-rebuilt units! Saves delay. Nominal charge.

THE DEVILBISS COMPANY, Toledo, Ohio — Windsor, Ontario • London, England • Santa Clara, Calif. — Branch Offices in Principal Cities



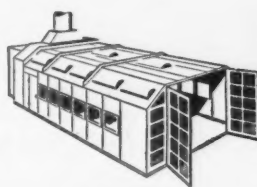
Air Compressors



Spray Guns



Hose and Connections



Spray Booths

FOR BETTER SERVICE, BUY

# DEVILBISS







IN TRAFFIC IT'S  
SAFER WITH

**NATIONAL**

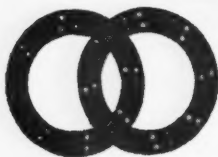
**Brake Block  
and Seg-Mold**

**SUPERIOR  
BRAKE LININGS  
ENGINEERED FOR  
EQUALIZED FRICTION**



**NATIONAL SEG-MOLD**  
(Fully cured seg-  
ments) Boxed Sets  
... Greater heat  
resistance under  
tough braking con-  
ditions. For riveting  
and bonding.

**NATIONAL  
BRAKE BLOCK**  
(Semi-cured  
wire-back) For  
quick-acting  
braking with  
less pressure.  
Available  
boxed, in bulk  
and in 25 ft.  
rolls. For riv-  
eting and  
bonding.



**NATIONAL SF  
Heavy Duty  
Clutch Facings**

NATIONAL has been a leader in the manu-  
facture of automotive friction materials for  
a generation... is always ahead with the  
most modern developments. Depend on  
NATIONAL Brake Block and NATIONAL  
Seg-Mold for quality and performance...  
For complete trade coverage... For a  
better profit picture!

We'd like to send you our latest, easy-  
to-read catalog and complete information.  
Write now to Dept. 2.

**NATIONAL BRAKE BLOCK  
CORPORATION**  
79 MADISON AVENUE • NEW YORK 15, N. Y.  
Dependable Performance Since 1919

Stock Warehouses at  
New York Chicago Fort Worth Los Angeles  
Birmingham Dallas

## Calendar of Coming Events

Sept. 15-16—Wisconsin Automotive  
Trade Assn., Schroeder Hotel, Mil-  
waukee.

Sept. 20-22—South Carolina Auto-  
mobile Dealers Assn., Ocean Forest  
Hotel, Myrtle Beach, S. C.

Sept. 21-23—South Dakota Auto-  
mobile Dealers Assn., Cataract Hotel,  
Sioux Falls, S. D.

Sept. 22-23—Automobile Dealers  
Assn. of North Dakota, Elks Club,  
Fargo, N. D.

Sept. 22-26—Federation of Auto-  
mobile Dealers Assn. of Canada, Montreal.

Sept. 25-26—Kansas Motor Car  
Dealers Assn., Hotel Broadview, Wich-  
ita.

Sept. 25-26—New Jersey Automotive  
Trade Assn., Traymore Hotel, Atlantic  
City, N. J.

Sept. 29-30—Minnesota Automobile  
Dealers Assn., Nicollet Hotel, Minne-  
apolis, Minn.

Oct. 5-7—Texas Automobile Dealers  
Assn., El Paso, Tex.

Oct. 9-11—Penna. Automotive Assn.,  
Chalfont-Haddon Hall, Atlantic City,  
N. J.

Oct. 12-14—Arizona Automotive  
Dealers Assn., Pioneer Hotel, Tucson,  
Ariz.

Oct. 16-18—National Used Car Deal-  
ers Assn., Hotel Hollendam, Cleveland,  
Ohio.

Oct. 19-21—Florida Automotive  
Dealers Assn., San Souci Hotel, Miami  
Beach, Fla.

Oct. 26-28—Automobile Dealers of  
Alabama, Buena Vista Hotel, Biloxi,  
Miss.

Oct. 26-28—Tennessee Automotive  
Assn., Noll Hotel, Nashville, Tenn.

Oct. 31-Nov. 1—Automotive Parts  
Rebuilders Assn., Conrad Hilton (Stev-  
ens), Chicago, Ill.

Nov. 3-4—Society of Automotive En-  
gineers, Chase Hotel, St. Louis.

Nov. 6-7—Society of Automotive En-  
gineers, Mayo Hotel, Tulsa, Okla.

Nov. 10-13—American Petroleum  
Institute, annual meeting, Conrad Hil-  
ton Hotel, and Palmer House, Chicago,  
Ill.

Nov. 16-17—Texas Used-Car Dealers  
Assn., Buccaneer Hotel, Galveston,  
Tex.

Nov. 30-Dec. 5—Society of Auto-  
motive Engineers, Statler Hotel, New York  
City.

Dec. 1-2—Idaho Automobile Deal-  
ers Assn., Boise, Idaho.

Dec. 4—Utah Automobile Dealers  
Assn., Newhouse Hotel, Salt Lake City,  
Utah.

Dec. 8-10—Ohio Automobile Deal-  
ers Assn., Statler Hotel, Cleveland,  
Ohio.

Dec. 10-13—Automotive Service In-  
dustries Show, Municipal Auditorium,  
Atlantic City, N. J.

1953  
Feb. 14-18—National Automobile  
Dealers Assn., San Francisco, Calif.

Feb. 26-28—1953 Pacific Auto-  
motive Show—Civic Auditorium, San  
Francisco, Calif.

Mar. 14-22—Chicago Automobile  
Show, International Amphitheater,  
Chicago, Ill.

Mar. 26-29—Southwest Automotive  
Show, Automobile Building, Fair Park,  
Dallas, Tex.

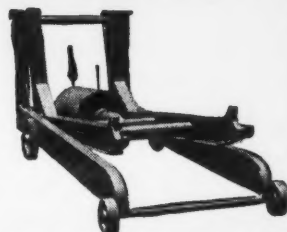
May 22-24—1953 Southeast Auto-  
motive Conference, Miami, Fla.

## Nation's Largest LINCOLN-MERCURY DEALER USES LEE END LIFTS



J. E. Coberly, Jr., Executive Vice President of J. E. Coberly, Los Angeles, says: "Lee End Lifts help us handle more body and fender jobs at less labor costs. Our men find it easier to work in a standing position and are turning out consistently higher quality work."

With body and fender, as with all types of under-car work, Lee End Lifts speed the job, lifting either end of a car to any of 10 convenient working heights—to 53". 3000 lb. capacity. Patented automatic safety latch. Stores in 2 ft. sq. Write for data and price sheet.



This is the all new Model 52  
Lee End Lift with cantilever  
action. 6000 lb. truck lift  
—Model 52-T—also avail-  
able.

**AUTOMOTIVE EQUIPMENT MFG. CO.**

11000 SO. ALAMEDA ST., LYNWOOD, CALIF.

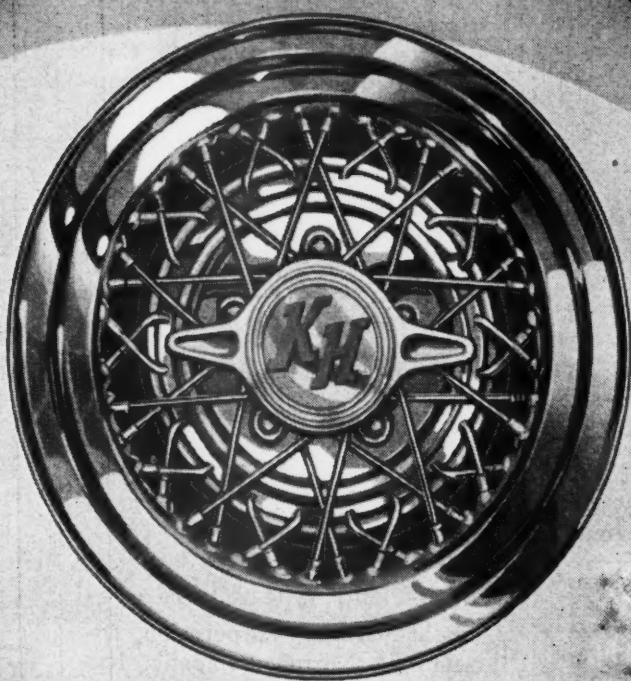




# KELSEY-HAYES

Leading Producer of Wheels for Every Purpose, Offers . . .

**STYLE-PERFECTED WIRE WHEELS!**



## for Tomorrow's Cars of Greater Distinction:

Skillfully designed! Radically improved over former American types, or even present-day importations! A major achievement to greatly enhance a modern car's entire appearance of custom styling, for those to whom pride of ownership is all important! Wheels of superior strength, safety and brake-cooling action, as well as for arresting distinction!



... ASSURES PROVEN PRODUCTS AT ...  
**KELSEY-HAYES WHEEL COMPANY**

DETROIT 32, MICHIGAN

PRODUCTS: Wheels—Hub and Drum Assemblies—Brakes—Vacuum Brake Power Units—for Passenger Cars, Trucks, Buses—Electric Brakes for House Trailers and Light Commercial Trailers—Wheels, Hubs, Axles, Parts for Farm Implements.  
PLANTS: Kelsey-Hayes Plants in Michigan (4), McKeesport, Pa., Los Angeles, Calif., Davenport, Iowa, Windsor, Ontario, Canada.





**Automotive Service is F-A-S-T-E-R with VACO Screw Drivers**

**BREAK-PROOF SHOCK-PROOF**

- All the screw drivers you need from one source.
- Unsurpassed, uniformly high quality.
- Chrome Vanadium blades, break-proof handles for low overall cost.
- All drivers fully guaranteed.

**Vaco "Universal" 6-in-1 Kit**

Serves all three types of the most popular screws in use today... Regular, Phillips, Clutch Head. One handle fits 6 blades... entire kit rolls into convenient, pocket-size package.

**ZU 75 Kit**

**FREE Catalog**

All the information you can possibly use concerning more than 250 different types & styles of screw drivers in one easy-to-read catalog. Write for copy, today!

**VACO PRODUCTS CO.** 317 E. Ontario St. Chicago 11, Ill.  
In Canada: Vaco-Lynn Products Co., Ltd. 204 Laurier Ave. W., Montreal 8, Que.



**KEN-TOOL 4-WAY RIM WRENCHES**

They're built stronger to last longer... forged from only the highest quality steel... held to KEN-TOOL'S rigid standards. They're "Job Designed" to do tough jobs quicker... **Best by Test!**

See KEN-TOOL'S Complete Line At Your Jobber!

**KEN-TOOL Mfg. Co.** Akron 3, Ohio

## DSCs to Be Awarded Six Noted Old-Timers

Six prominent figures in the automobile world have been unanimously chosen by Automobile Old Timers, the national organization of America's motor car pioneers, to receive distinguished service citations at its 13th annual dinner to be held in the grand ballroom of the Hotel Astor on November 13.

The recipients of the awards will be: John L. Collyer, chairman and president, B. F. Goodrich Co.; George W. Mason, chairman and president, Nash-Kelvinator Corp., and president, Automobile Manufacturers Assn.; Albert Linder Pope, former president, Pope Manufacturing Co.; Col. Willard F. Rockwell, chairman, Rockwell Manufacturing Co.; John J. Schumann, Jr., president, General Motors Acceptance Corp.; Russell E. Singer, executive vice president, American Automobile Assn.

The report of Ralph T. Horgan, chairman of the Committee on Admissions, listing 107 new members, will bring the total enrollment of the national organization well on the way to 4,500. Members elected during the first six months of 1952 showed a substantial increase as compared with the same period a year ago.

## Sales Aids For Paint Shops And Wholesalers

Behr-Manning Corporation, Division of Norton Company, has launched its 1952 "Lift Shop Output" campaign for the automotive trade with a working kit designed in the Behr-Manning colors, blue and yellow. It consists of a box of selling aids for the jobber and a large envelope of sales helps for repaint shops.



**WOLF'S HEAD IS 3 STEPS AHEAD**

**WOLF'S HEAD MOTOR OIL AND LUBES**

**100% PURE PENNSYLVANIA**

Member, Penna. Grade Oil Association



**Herbrand**

*The choice of professional mechanics everywhere*

Herbrand Tools, Fremont 7, Ohio  
The Bingham-Herbrand Corp.



**PANEL CUTTER and Drill Saw Attachment**

An Indispensable Tool for your Service and Body Shops. A time and money saver for slitting bearings and bushings—for mufflers, heaters, bolts and nut studs, fenders, panels and frames. Contact your supplier or write direct.

**\$18**

**E. H. STACKHOUSE**  
219 N. 63rd Street  
Phila. 39, Pa.



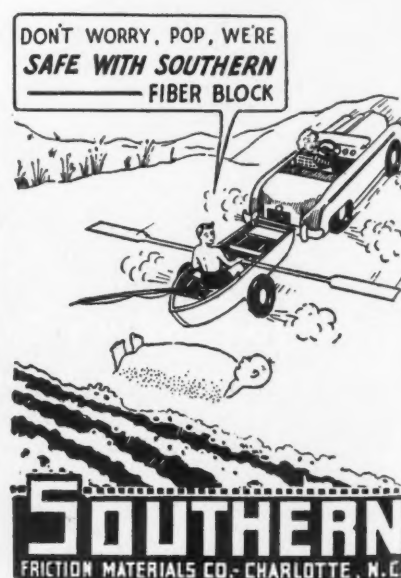
**WEED**

**SELL - SERVICE - REPAIR - TIRE CHAINS**

Always Recommend **WEED AMERICAN V BAR-REINFORCED**

**The Best Buy in TIRE CHAINS**

*Reinforcing Bars on Cross Chains Provide More Traction. Greater Safety, Longer Mileage.*



**DON'T WORRY, POP, WE'RE SAFE WITH SOUTHERN FIBER BLOCK**

**SOUTHERN**

FRICTION MATERIALS CO. - CHARLOTTE, N.C.



"My tire business  
is better with my  
new Schrader service"

"Showing this gauge helps me give my customers the facts about their tires' ability to hold air—that interests them and starts things. Since riding comfort, safety and ease of steering are so closely tied to tires, sealing the air in, lubrication, shock absorbers, and the like . . . my customers just naturally see the need and buy many of the accessories and services I sell!"

You, too, can get profitable results from Certified Air Service. It's easy. Four simple steps in Manual A-200 show you how to do it. Write for your copy, today! And don't overlook your need for Schrader gauges! You can't *certify* your air service without *accurate* gauging equipment.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated  
470 Vanderbilt Ave., Brooklyn 17, N. Y.

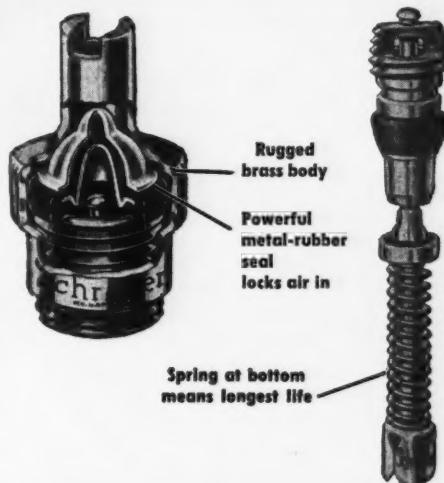
**Schrader**

REG. U. S. PAT. OFF.

FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Genuine Schrader caps and cores are an important part of Certified Air Service.



The use of first quality repair materials with first quality service brings them back for more! Always specify Schrader.





Eight decades ago 70% of all gainful workers in the U. S. A. toiled in agriculture. Today farms and factories, put together, account for less than 40%.

Where do the rest serve? Chiefly in distribution, which includes the physical movement of products to buyers, and all forms of selling, advertising and sales promotion at the manufacturing, wholesale and retail levels, as well as the widely varied services related to the maintenance and use of American products.

With over 60% of our total labor force falling outside of farm and factory employment, obviously salesmen on the front line of selling contribute greatly to the productivity, prosperity and the world's highest standard of living enjoyed by the U. S. A.

Without sales a business fails and jobs vanish. No matter how good a product may be, it must be sold in competition with other goods. A salesman sometimes finds his products not truly competitive. He then exercises tremendous pressures on his employer for better products, lower prices, or both. Thus, competitive selling greatly influences the progress of American prosperity.

Countries where selling is inefficient, restricted or eliminated generate far less wealth, happiness and security.

Competition, especially competitive selling, is a great American Freedom. Let us preserve it to assure Progress For All Our People.

• • •

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THE COMPETITIVE SYSTEM DELIVERS THE MOST TO THE GREATEST NUMBER OF PEOPLE

**Big News!**



# FRAM ANNOUNCES NEW <sup>LOW PRICE</sup> CHEVROLET OIL FILTER for 1950-51-52 Models\*



**FASTEST, SIMPLEST INSTALLATION—**  
Uses only one fitting to install. Takes less than 15 minutes for complete installation!

**SAFEST INSTALLATION—**Feelproof—No interference from moving parts.

**ESPECIALLY ENGINEERED FOR CHEVROLET**  
—No adjustable straps, no slipping!

**NEW LOW PRICE—**Genuine Fram quality at a price every customer can easily afford!

**GUARANTEED—**Sold on a money-back guarantee.

only

**\$7<sup>95</sup>**

List (Tax included)



\* 1940-49 Chevrolets require 1 additional fitting. Available at all Fram distributors.

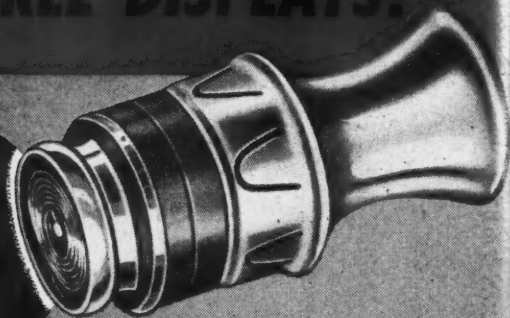
**FRAM**  
OIL • AIR • FUEL • WATER  
**FILTERS**

FRAM CORPORATION  
Providence 16, R. I.

**EXTRA  
PROFIT  
OFFER L-520**

**LAST CALL! ORDER NOW!**  
**WITH...FREE GOODS! FREE DISPLAYS!**

**YOU GET THIS  
\$155 CASCO  
POP-OUT UNIT**



**WITH YOUR ORDER FOR  
OFFER L-520**



|  | LIST PRICE EACH |
|--|-----------------|
| 2 No. L31C VIS-O-LITE ILLUMINATED LIGHTERS | \$2.85          |
| 4 No. L33C POP-OUT UNITS                   | \$1.55          |
| 4 No. L22C CASCO LIGHTER ELEMENTS          | \$1.05          |

**YOUR TOTAL SELLING PRICE \$17.65**  
**YOUR TOTAL COST ONLY \$10.73**

***Your Profit \$6.92***

**you also get FREE**

**CASCO'S TERRIFIC NEW  
*Self-Service***

**MERCHANDISER**

**THIS FREE DISPLAY...**  
puts you in the Lighter Business in the right way . . . Keeps you there Profitably with Automatic Sales, yet doesn't cost you a cent!

**ORDER Deal L-520 From YOUR DISTRIBUTOR TODAY!**

**OFFER  
EXPIRES  
SOON!**



Tests show it increases lighter sales up to 500%

Stable! Sturdy! Packed with Sales Appeal

Self-Selling Merchandising Cards Quicken Impulse Buying

Takes only 6 inches square of counter space

DEPENDABLE PRODUCTS OVER A QUARTER CENTURY

**CASCO**

CASCO PRODUCTS CORP.  
BRIDGEPORT 2, CONN.



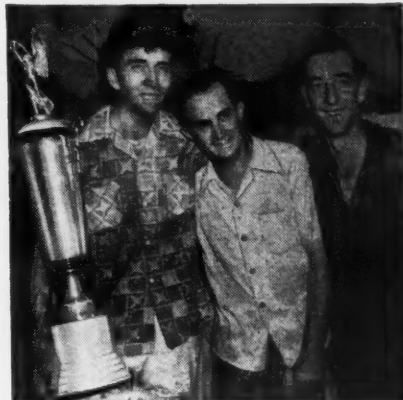
# HUDSON HORNETS SET ALL-TIME STOCK CAR RECORD!

## 33 VICTORIES IN 37 STARTS!

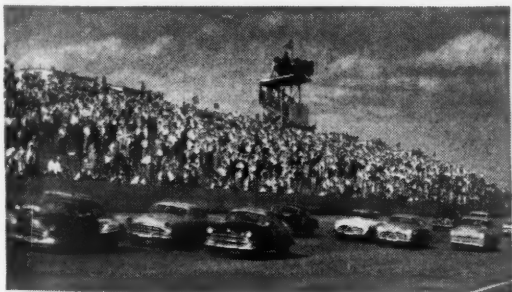
Hudson dealers have the greatest performance record in history to help them sell!



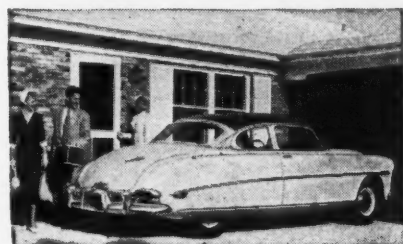
Dick Rathman leads the field across the finish line in a Hudson Hornet at Langhorne, Pa. More and more, people are looking to stock car races for impartial proof of automobile superiority. These grueling contests (some as long as 500 miles) compare all makes for power, stamina and safety. Hudson has won 33 victories in 37 starts. In these races, no other make of car has won more than twice!



Tim Flock, Bud Shuman and Herb Thomas, driving Hudsons, made clean sweep of Detroit's 250-mile Anniversary Race, finishing first, second and third! What a powerful "closer" for Hudson salesmen!



At the 100-mile Stock Car Classic at Darlington, S. C., Hudsons won both first and second places. Almost a million people have witnessed Hudson's great victories; millions more have read about them in their newspapers. What wonderful pre-selling for Hudson dealers!



Hudson's unmatched record is helping to build sales and profits for Hudson dealers. People are coming to realize that the very qualities that make Hudson a winner on the race track are the same qualities they want in their own cars!



### HUDSON'S NEW LOW-PRICE WONDER CAR

In all the world, no other car like this . . . a low-price car that performs like the fabulous Hudson Hornet . . . a "step-down" designed, compact car that clings to the road tighter, rides smoother and is safer than anything except another Hudson . . . seats six passengers comfortably . . . has the quality features and conveniences of cars costing thousands more!



A few choice dealer franchises are still available. For full and confidential information on the Hudson franchise and advance details on the new, low-priced wonder car, send in this coupon today!

C. A. J. Hadley, Sales Manager  
Hudson Motor Car Company  
Detroit 14, Michigan

Send me complete information on the Hudson dealer franchise and advance details on the new wonder car. I understand that all such information is to be confidential.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY & STATE \_\_\_\_\_

BUSINESS \_\_\_\_\_ POSITION \_\_\_\_\_

SETTING A NEW PACE FOR HIGH PERFORMANCE!

POPULAR

**SPORTSMAN**

MUFFLERS

WITH A  
**DEEP-MELLOW  
TONE**



AND  
**SOUND  
CONSTRUCTION**

DESIGNED TO GIVE TOP PERFORMANCE WITH

- FASTER PICK-UP
- LESS BACK PRESSURE
- MORE ENGINE POWER
- REDUCED ENGINE WEAR
- INCREASED GAS MILEAGE
- PREDOMINANTLY LOW TONE

ORDER YOUR INITIAL STOCK NOW — AND WATCH YOUR SALES GROW!

Arnold Haviland Company

Defiance 11, Ohio

**TAKES CONSTANT  
VIBRATION**

**"Aero-Seal"**  
HOSE CLAMPS



Aero-Seals never shake loose! Curved saddle holds tight, prevents biting or twisting hose at clamping point. Hardened steel worm-drive screw locks in position, yet removes easily. Stainless steel bands resist corrosion. Longer take-ups mean smaller inventory. And Aero-Seal gives you a higher profit on each easy sale. Compare Aero-Seals with ordinary clamps at your jobber's today. Or write us for further information.

The Largest Selling Quality Hose Clamp in the World

**BREEZE CORPORATIONS, INC.**

41 South Sixth St., Newark 7, N. J.

Use of stainless steel subject to government regulations.



and the Miley method of *bonding* shoes is a factory job from start to finish—the only one using an absolutely **UNCURED** lining to give—

No squeaks, no powdering; a closer, tighter fit; quicker, safer stops; longer mileage, because the bonding and final **CURING** is done in **ONE** baking operation.

So let your Miley jobber or rebuilder do your Mileybonding for you according to rigid, factory specifications—he can do it easier, faster, cheaper, with greater profits for you.

**Mileybond is your BOND for**

**Safety—Satisfaction**

**L. J. MILEY CO.**

Manufacturers of  
Brake Lining, Brake Shoes, Re-built Cylinders  
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For hard to lick service problems—quick repairs that keep customers happy—look in your Champ-Items No. 500-R Catalog. Up-to-date supplement of new items for this catalog sent on request.



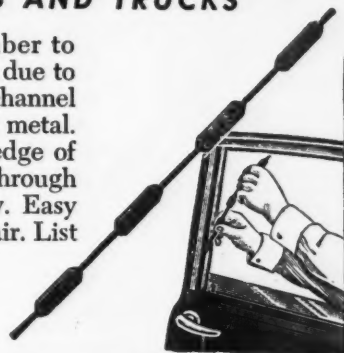
**CHAMP-ITEMS INC.**

**MORE THAN 200 CHAMP-ITEMS  
TIME SAVERS — MONEY MAKERS FOR YOU**

## No. 488 WINDOW CHANNEL SHIM for ALL CARS AND TRUCKS

Here is a real service number to eliminate rattles of windows due to excessive wear of original channel felt causing glass to contact metal. It is installed between the edge of the glass and old channel through entire length of the window. Easy to install — a permanent repair. List \$1.00 each.

Weatherstrips against rain,  
insulates against cold.



U.S. Pat. No. 2,504,510

**ORDER FROM YOUR JOBBER**

## LOWEST PRICE QUALITY Valve Refacer



*If it's made by Lee  
it's a "Knock-Out"*



MODEL K403

SEE YOUR  
AUTHORIZED  
K. O. LEE  
DISTRIBUTOR  
OR WRITE  
FOR  
COMPLETE  
LITERATURE

**K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA**  
WET VALVE REFACERS • VALVE SEAT GRINDER SETS • STUD WRENCHES  
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## "NATIONAL" Exhaust Removal Systems Actually Cost Less!

**ENGINEERED  
and  
GUARANTEED**

Why pay as much—or more—for an uncertain gamble in makeshift exhaust removal equipment when you can get a "NATIONAL" System that's been designed, tested and approved to do the job. One of the oldest in the business, "NATIONAL" has spent years perfecting their Overhead and Under-floor Systems that they guarantee, in writing, to meet your requirements. You have a choice of 6 "NATIONAL" Systems that are adaptable to present buildings or new construction. Delivered complete, with motor and blower units, there is nothing else to buy. Find out about all of the "NATIONAL" Systems and how little it costs to own one. There is a qualified "NATIONAL" man near you. Write today for literature.

**6**

**PROVED SYSTEMS  
TO CHOOSE FROM**



**OVERHEAD  
Systems**  
... standard  
kit, two inlets  
serving any two  
of four cars in  
a row, \$206.25  
F.O.B. Decatur

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World's Largest Manufacturer of Exclusive Garage Ventilating Equipment

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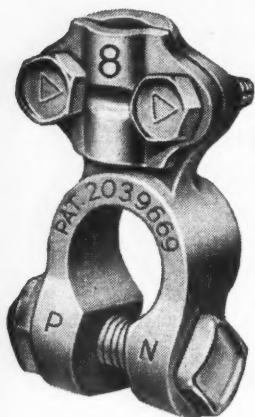
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10,000,000 USERS PROVE...



**TRIPLE-A NO. 8 TERMINALS  
ARE 8 WAYS BETTER!**



1. Entire terminal made of solid brass for greater conductivity, fully plated to prevent corrosion.
2. Truly universal . . . holds #00 to #4 cable or flat strap tightly and permanently.
3. Double screw pressure and built-in S clamp for full permanent electrical contact.
4. Removable top plate makes terminal easy to attach and remove.
5. Top plate reverses to hold as small as 22 gauge wire in emergencies.
6. Fits positive and negative posts.
7. Straight-in-line design for more universal re-use of shortened cables.
8. Square bolt head positively held by deep "V-lock". Stays in place, will not turn.

All Triple-A No. 8 battery terminals are packed 10 to a card. This free, colorful, sales appealing card provides both sales stimulus and easy access.



**Triple-A**

SPECIALTY COMPANY

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TELEPHONE SEELEY 3-0466 • CABLE "TRIACO"

**BARD**  
AUTOMOTIVE  
PRODUCTS

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Division of THE GABRIEL COMPANY • ROCKFORD, ILLINOIS

Labels in ad: PISTON RINGS, VALVE PACKING, VALVE GUIDES, DE GLAZING TOOL, HOT WATER CAR HEATERS, THERMOSTATS.

**CHOLDUN  
"AUTO-MAGIC"  
CARWASHER**

No Tracks to Lay,  
No Arch to Sway,  
No rack at All—  
To Pull or Fall.  
Won't Jump the Track  
Or Break your Back.  
No Tank to Fill,  
No Soap to Spill,  
No Valves to Stick—  
Now—Take your Pick!



Write *Choldun* MANUFACTURING CORPORATION  
NEW HAVEN, CONN.

# Get Yours

## Get your copy of the 1952 23rd Edition of **CHILTON'S** **MOTOR AGE** **FLAT RATE** **& SERVICE** **MANUAL** *while the supply lasts*

- Labor charges and Service procedure on the new cars
- Many new editorial features
- The most complete and efficient edition Chilton has ever issued.

12 issues of Motor Age and the  
1300 page Manual costs only \$17.  
**ORDER TODAY! from**

### AUTOMOTIVE HEADQUARTERS

CHILTON  
PHILA.



COMPANY  
39, PENNA.

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## THE "JOURNALIZER" ENGINEERED FOR PRECISION CRANKSHAFT TRUING



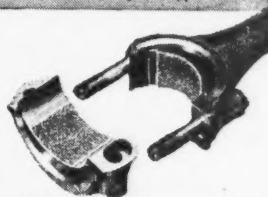
### EASIER LESS COSTLY FASTER

You can true journals to a smooth round finish quickly, accurately and economically thanks to the dependable JOURNALIZER. Precision JOURNALIZER give lasting bearing performance to your customer's car. JOURNALIZER, the mechanics' unbeatable "little helper," is simple to use. Crankpins can be trued on any make car or truck without the costly job of removing the crankshaft, cylinder heads, knee action, axle, steering, oil lines, counterweights or engine supports.

Remove the oil pan and spark plugs... install JOURNALIZER in place of engine bearing... Prestol the starter motor does the work. JOURNALIZER is supplied with coarse and fine replaceable inserts for rough cutting and polishing.



JOURNALIZER will true No. 1 journal on ALL engines. "Universal Kit," five sizes service all cars and most trucks, (except Ford V8).....\$35.00  
Individual Kit ..... 7.00 each  
(Specify engine and model when ordering.)



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USE

## METAL/clene



**no brushing  
no scraping  
no heating**

Metalclene is made under an exclusive Bendix formula. There are many copies, but there is no substitute. When you order, be sure to specify and get the original Bendix® Metalclene. \*REG. U.S. PAT. OFF.

Just Dip 'em in Dirty — Pull 'em out Clean

**BENDIX PRODUCTS DIVISION of**  
SOUTH BEND 20, INDIANA



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## NO MORE CARBON SCRAPING



U. S. PAT. #2318842\*  
GUNK DUNK BENCH Carburetor and Parts Cleaning Kit  
New 6 1/2 gal., size deep "Vapor-catcher" design pail.

*Nothing  
Decarbonizes  
and Cleans  
CARBURETORS,  
FUEL PUMPS,  
PARTS  
Like..*

### New-Improved- More Potent\* GUNK HYDRO-SEAL

**A WORD OF CAUTION**  
If it doesn't bear the Genuine GUNK trademark, it may be a partly diluted imitation—and will not give you the Safety and Advantages of Genuine GUNK and should be flatly refused.

1. Faster . . . Terrific penetration . . . now improved odor.
2. Quickly digests and removes carbon gum, paint, lead, makes possible accurate visual inspection and fitting of delicate metering mechanisms, jets, orifices and diesel nozzles . . . without etching.
3. Lasts more than one year . . . due to water blanket.
4. Works hot or cold . . . Rinses wet or dry.
5. Patented Double Barrel Performance Guaranteed.

**SOLD BY BETTER JOBBERS EVERYWHERE**  
Write for Name of Nearest Stocking Jobber  
Flatly Refuse Substitute Imitations

**IMMEDIATE DELIVERY**  
1 GALLON OR A TANK CAR



**CURRAN CORP.**  
Mfg. Chemists  
LAWRENCE, MASS.

## AIR LIFT *Pneumatic* SPRING BOOSTER

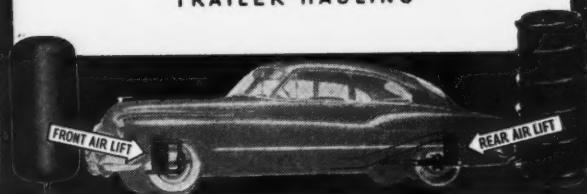
**GIVE YOUR CAR A LIFT—  
WITH AIR LIFT**

See Your Dealer or Write

### AIR LIFT COMPANY

2330 W. MAIN STREET  
LANSING, MICHIGAN

FOR  
OVERLOADS  
IMPROVED ROADABILITY  
SAGGING SPRINGS  
TRAILER HAULING



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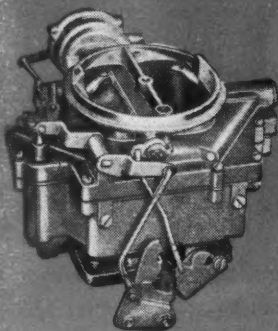
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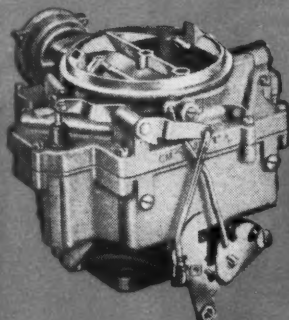
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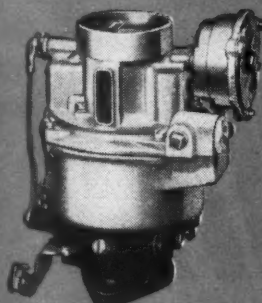




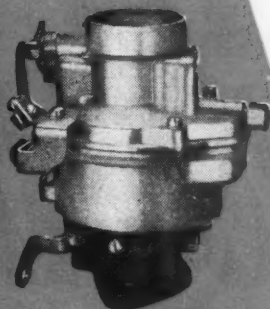
4-jet automatic choke  
Carburetor original equipment on  
CADILLAC



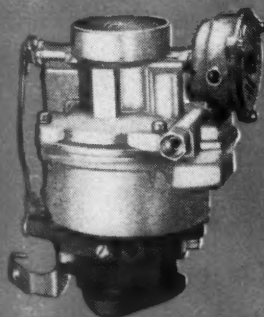
4-jet automatic choke  
Carburetor original equipment on  
OLDSMOBILE



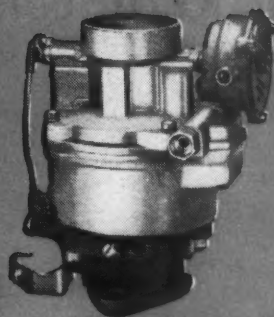
automatic choke  
Carburetor original equipment on  
PONTIAC "6"



manual choke  
Carburetor original equipment on  
CHEVROLET  
standard models



automatic choke  
Carburetor original equipment on  
CHEVROLET POWERGLIDE

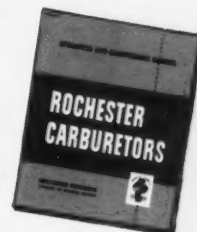


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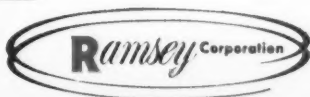
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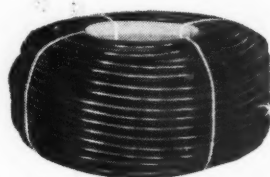
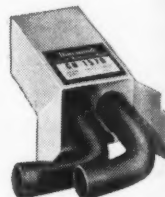


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